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A Study of Failures in the US Banking Industry

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A STUDY OF FAILURES IN THE US BANKING INDUSTRY

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ABSTRACT

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This dissertation studies failures in the U.S. banking industry following the 2008 financial crisis. The dissertation offers an exhaustive review of the organizational failure literature, and changes in the banking industry environment over the past century. It takes three theoretical perspectives - institutional, industrial organization and resource-based view- to analyze failures in the banking industry.

The review and analysis allows me to trace the roots of recent bank failures to external (institutional, competitive) and internal (resource structure, strategy, risk) factors, and propose several hypotheses linking such factors with failures. The hypotheses are tested using a data-set that included all bank failures in the US from June 30th, 2009 to June 29th, 2010. A second data-set that includes all recent bank failures prior to the crisis (2000-2007) is analyzed to compare the antecedents of bank failure prior to- and during- a financial crisis.

The results show that both internal and external factors contributed to recent bank failures. This study provides evidence that neither deterministic nor voluntaristic perspective alone explains corporate failures. The combination of multiple theoretical lenses from different perspectives provides the best understanding of failures. The dissertation also discusses theoretical and managerial implications of the study.

This dissertation is dedicated to my family, especially my parents Ray and Shirley Trendowski, for their support of my life-long learning process.

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CHAPTER I

INTRODUCTION

Between 2008 and 2010 the United States endured its third highest rate of bank failures since the founding of the Federal Reserve in 1913. As the entire US economy is dependent on the banking industry , academics, policy makers, politicians and practitioners have been interested in identifying the causes of these failures (as evidenced by the large number of articles about them in the popular business press).

This dissertation addresses the following research questions: (a) What external and internal factors caused banks to fail at such an alarming rate during the financial crisis?, and (b) How bank failures during a financial crisis differ from bank failures prior to it? This paper adopts multiple theoretical perspectives to address these question and the answers or findings contribute to institutional theory, resource-based view theory, and the broader firm failure literature.

Banking Industry Background

The US banking industry was stable in the decade leading up to the 2008 financial crisis. After the dot-com bubble[1] burst in the early 2000s, the Federal Reserve lowered the federal funds interest rate to 1% as a counter measure to boost the US economy. From 2002 to 2006, the United States housing market was enjoying continuous expansion[2] (Hilsenrath, Ng, & Paletta, 2008). It was during this period that widespread use of

[1]Bubbles are temporary increases in optimism about future prices (Glaeser, Gyourko & Saiz, 2008).
[2]Between 2002 and 2006, household borrowing grew at an average annual rate of 11%, far outpacing overall economic growth.

multiple financial innovations led to many banks relying on risky subprime mortgages to foster growth[3].

One such innovation was securitization and trading of mortgages. Securitization occurs when a non-tradable asset is standardized to become a tradable asset in the market (Hellwig, 2009). In the traditional model of mortgages, a bank would loan out money based on the deposits it held. These banks would assume the risk involved with making such loans. To minimize risk and increase the amount of loans, banks began to pool mortgages and make them standardized assets by packaging the loans it made and selling them as investments (Hellwig, 2009)[4].

This financial innovation allowed banks to make loans more aggressively which made it easier for borrowers to get credit. Easier credit and lower interest rates led to increased demand for housing, which led to higher prices for houses. Consumers realized that they could take out a large home loan and refinance it at a later date once they had some equity established. However, these decisions were based on speculation that the housing market would continue to rise. An increasing number of borrowers took out adjustable rate mortgages[5] (Hellwig, 2009). They would pay a steady interest rate for the initial period and pay a different interest rate later on based on the current market rate. Some consumers took out interest only loans where they would only payback the interest, and not the principal, for the first few years of the loan. These consumers anticipated they

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[3] A subprime mortgage is categorized as a mortgage offered to a person with a low credit rating: FICO score below 620.

[4] Mortgage-backs securities (MBS) and collateralized debt obligations (CDO) were two ways that banks did this. MBS is a type of Asset-back security (ABS). ABS value is derived from a specific pool of underlying assets. Small and illiquid assets are pooled together since they are unable to be sold individually. Pooling the assets into financial instruments allows them to be sold to investors as investments. CDOs are a type of structured ABS with multiple "tranches"- a group of related securities offered as part of the same transaction. Tranches were split into different risk classes and sold to investors.

[5] Adjustable rate mortgages (ARM) accounted for 6% of the market in 2001 and 26% of the market in 2006 (Hellwig, 2009).

could refinance the loan in the later years or sell the home at a higher price (Hellwig, 2009). The problem for borrowers with adjustable rate mortgages is that a small increase in interest rates will substantially increase the mortgage payment on such a large loan[6]. Individuals who could barely afford the original payment were unable to absorb an increase in price when the grace period ended.

Banks began capitalizing on the subprime market – providing loans to individuals with a credit score below 620- relatively conservatively. Initially, they would loan out subprime mortgages at a higher interest rate to compensate for the increased risk-taking. However, they soon realized that there was a much better payback rate than expected (Demyanyk & Hemert, 2008). They were earning a higher rate of return on these subprime mortgages and not encountering a high default rate. As a result, banks were rushing more subprime mortgages to the market. Lending became more aggressive, targeting consumers who wouldn't normally qualify for a mortgage.

The subprime mortgage bubble[7] was relatively stable until interest rates began to rise. High interest rates, low average FICO scores, and low house appreciation created a "perfect storm" (Demyanyk & Hemert, 2008). The system was based on consumer's ability to receive money inexpensively and purchase housing. When the interest rates rose, the ability of consumers to purchase a house diminished. Banks suddenly faced a market with fewer credible borrowers to lend to. Additionally, consumers who already had a mortgage and planned to refinance were unable to do so due to tighter credit standards. This led to a dramatic increase in the number of mortgage defaults thus

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[6]Example: A family took out a $300,000 (ARM) loan in June, 2003 when the average mortgage was 5.43%. Five years later (2008), this mortgage rate was adjusted based on the market interest rate which was 6.88%. Overnight, their mortgage payment escalated from $1,690 per month to $1,971 per month; a 17% increase.

[7] Exogenous irrational bubbles are temporary increases in optimism about future prices (Glaeser, Gyourko & Saiz, 2008).

creating an enormous financial burden on exposed institutions. The government bailed out large banks by providing capital to restart lending to avoid a greater economic collapse. Smaller banks, which were not seen as a vital pillar of the US economy, were left alone to fight for survival.

Research on Corporate Failures

Corporate failure has been studied in a multitude of ways. Concepts such as organizational decline (Whetten, 1980), organizational mortality (Carroll, 1983), organizational death (Freeman, Carroll, & Hannan, 1983), bankruptcy (Sutton & Callahan, 1987), organizational extinction (Zuniga-Vicente & Vicente-Lorente, 2006), and organizational exit (Ross & Staw, 1993; Geroski, Mata, & Portugal, 2010), have been used to explain aspects of firm failure.

Literature on failures can be categorized into two dichotomous streams of research; deterministic and voluntaristic (Mellahi & Wilkinson, 2004). The first stream of research studied external environmental factors as the primary cause of failures. The deterministic view is centered on the idea that the industry matters most when it comes to failure. Firms are seen as being embedded in their environment. These external factors impact and constrain the firm so significantly that management has little or no control over the firm's outcome, thus failure is a result of external factors (see Rumelt, 1991; MaGahan & Porter, 1997).

The second stream of research looks at internal causes of firm failures. Failure is linked to internal inadequacies in dealing with external threats (Mellahi & Wilkinson, 2004). The strategic choice (Child, 1972) perspective argues that managers are not

powerless and can ultimately determine whether or not the firm will fail. Managers are viewed as the principal decision makers of the firm (Hambrick & Mason, 1984) and work within external environment constraints. Decision makers are considered more important than the external context where the decision is made.

As Wittleoostuijn (1998) points out, one of the shortcomings of failure literature is that it often takes on either an internal or external approach, even though organizations don't mechanically react to environmental forces or exercise unrestricted free will (Hrebiniak & Joyce, 1985). The divide created by the two dimensional approach has been sustained by assumptions that both the theoretical and methodological differences are too insurmountable (Witteloostuijn, 1998). Thus, the two schools have evolved independently with little synergy, creating significant research and theoretical gaps in our understanding of organizational failure (Mellahi & Wilkinson, 2004).

This dissertation will develop an integrated model, encompassing both internal and external factors, to examine firm failure. The antecedents of failure will be empirically tested within the context of the US banking system. The US banking system will provide a distinctive backdrop as it is a highly regulated industry. The regulated industry is significant because it diminishes managerial discretion.

Strategic Importance of Banking

Banks are strategically important due to the impact they have on the broader economy; more so than failures of firms in other industries. Part of the issue is a result of the financial contagion (Allen & Gale, 2000) or domino effect of bank failures. Since banks are so intertwined financially through lending and borrowing from each other, a

failure of any one bank is more likely to spill over to other banks. Banks are considered more susceptible to contagion for three reasons (Kaufman, 1996):

1) Banks have low capital-to-assets ratios (high leverage) which provides the bank with little room for losses;
2) Banks have low cash-to-assets ratios (fractional reserves) which may require the bank to sell off earning assets to meet deposit obligations;
3) Banks have high demand debt and short-term debt-to-total debt ratios (high potential for a run) which may require hurried asset sales to pay off running depositors.

Financial contagion is often more serious in banking than other industries because it: a) occurs faster; b)spreads more widely within the industry; c) results in a large number of failures; d) results in large losses to creditors (depositors) ; and e) spreads beyond the banking industry to other sectors, the macro economy, and potentially other countries (Kaufman, 1994). That is why banking, as an industry, is so highly regulated. Banking is a major public policy concern as governments realize the dangerous ramifications of a failing financial institution.

Background on Banking Failures

The United States banking system is one of the most stable and highly respected financial systems in the world. However, prior to 1913, the United States did not have a central bank. Bank runs would occur, where too many depositors would withdraw their funds all at once, crippling the bank. Without a central bank, other banking institutions or wealthy financiers would have to loan money to the bank or it would collapse.

As a result of early banking crises in 1873, 1884, 1890, 1893 and 1907 (Bruner & Carr, 2007), consumers began to lose faith in the US banking industry. The Federal Reserve was created in 1913 to dispel fears and return consumer confidence. Since its establishment, there have only been three large scale bank failures. The noteworthy periods of bank failures include the Great Depression of the 1930s, the Savings and Loan Crisis of the 1980s and early 1990s, and the current disaster.

The Great Depression caused many depositors to panic and withdraw all of their funds from commercial banks. Prior to the establishment of the Federal Deposit Insurance Corporation (FDIC) in 1933, bank runs were common as there was no insurance safeguarding deposits. Consumers ran the risk of losing their entire savings if their bank were to fail. Under the Banking Act of 1933 (also referred to as the Glass-Steagall Act), the FDIC guaranteed deposits of up to $2,500 per account. Within a year, this was raised to $5,000[8]. Not only did the act subdue consumer fear of losing everything, it also tightened regulation regarding how banks were run.

The bank failures of the late 1920s and early 1930s are easily be grouped into broad geographical groupings and bank types (Stauffer, 1981). More than one-third of all existing banks failed in the immediate aftermath of the Great Depression (Walter, 2005). Part of that was attributed to the banking industry being overbuilt. In the 1930s, there were over 30,000 banking institutions operating in the United States. Most of the new small banks were formed in small towns and rural communities. Many of these banks were started without adequate financial or managerial resources (Walter, 2005). Once there was an economic shock, many ill-prepared banks suddenly failed. Most of these failures were attributed to falling agricultural prices (Temin, 1976) as the difficulties

[8] http://www.fdic.gov/anniversary/about.html

suffered by farmers triggered the failures (Walter, 2005). By comparison, the bank failures of the late 2000s are largely associated with housing price decline rather than agricultural issues. During this crisis, failure rates were highest in areas with the largest decline in housing prices[9] and largest increase in mortgage delinquency rates (Aubuchon & Wheelock, 2010). These were the same states that had the largest housing price increases as well as the largest increases in the number of subprime mortgages.

From the late 1930's through the 1970's, banking markets were stable. This period incurred very little regulatory and technological change. However, in the 1980s, significant changes began to alter the market structure and increase competition. As a result, the number of banks has dramatically decreased as a result of failures, mergers, and acquisitions.

The banking failures of the 1980s and early 1990s have been attributed to market forces, regional and sectoral recessions, and excessive risk taking (Hanc, 1997). Similar to the 1930s, geography played a significant role in determining which banks failed. For example, over one-third of all bank failures in the 1980s and 1990s occurred in Texas (Hanc, 1997). The sharp increase of bank failures in the 1980s along with the apparent vulnerability of banks to sudden shifts in local economic conditions led the federal government to relax branch banking restrictions (Aubuchon & Wheelock, 2010). O'Driscoll (1988) and Kane (1989) pointed to federal deposit insurance for promoting excessive risk taking during the 1980s. Since depositors are insured against loss, there is no incentive to monitor bank activities or demand risk premia on deposit interest rates

[9] Nationwide, the median house price rose 58% from 2000 to 2006. Subsequently, there was a 15% decrease in housing prices over the next four years (Table 1). Statistics are computed using the FHFA Housing Index.

(Wheelock & Kumbhaker, 1994). Insurance encouraged banks and S&L institutions to take excessive risk, leading to increased failures.

Considerable regulatory change occurred in the 1990s. The Riegle-Neal Interstate Banking and Branch Efficiency Act of 1994 (IBBEA) permitted healthy bank holding companies to acquire banks in any state. Beginning on June 1, 1997, IBBEA allowed for interstate mergers between banks, thus ushering a new era of large mega-banks.

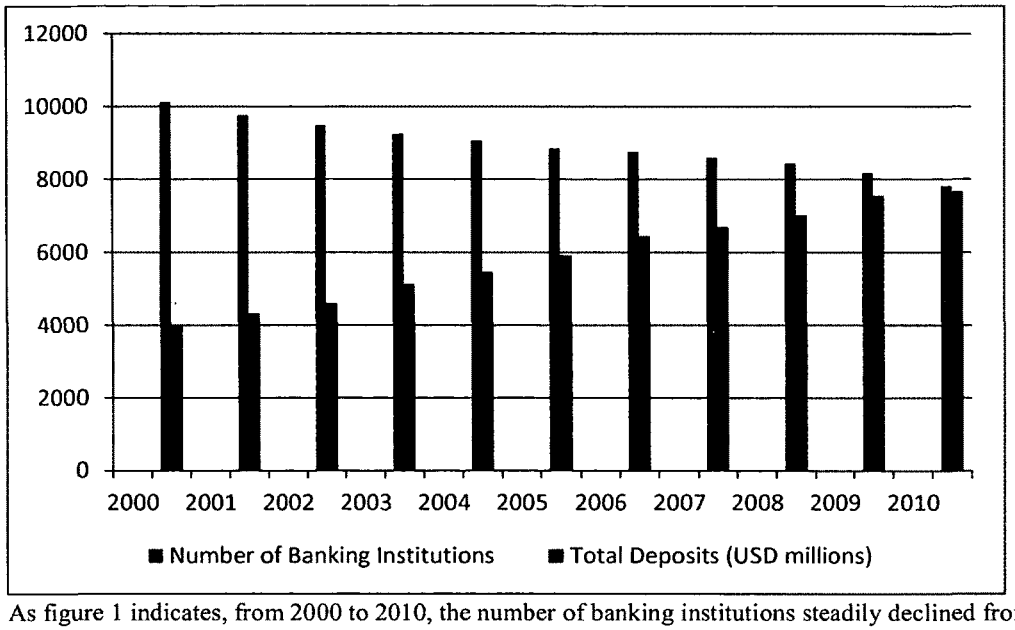
In 1999, The Gramm-Leach-Bliley Act (GLBA) removed the restrictions imposed on banks by the Glass Steagall Act (1934) and the Bank Holding Company Act (1956). Also known as the Financial Services Modernization Act, the GLBA repealed longstanding prohibitions on banks, securities firms and insurance companies (Nair & Trendowski, 2011). Banks are now able to operate all three lines of business under one entity. By eliminating barriers between insurance, banking, and securities industries, the organization of the financial services industry underwent extreme change (Yildirim, Kwag, & Collins, 2006). Between 2000 and 2010, the number of banking institutions has dropped 30% while total deposits grew 90%. As a result, the average size of an institution has grown 248% during that period. Table 1 provides statistics on the last 10 years of the U.S. Banking Industry and Housing Market.

TABLE 1: STATISTICS ON 10 YEAR PERIOD OF THE US BANKING INDUSTRY AND HOUSING MARKET [10]

Year	Institutions	% Growth	Branches	% Growth	Deposits (1,000s)	% Growth	Deposits/ Institution	% Growth	Median House Price[11]	% Growth
2010	7,821	-4.7	98,515	-1.1	7,675,620,512	1.5	981,412	6.3	189,830	-2.95
2009	8,185	-3.1	99,550	0.9	7,559,615,705	7.6	923,594	11.0	195,600	-5.15
2008	8,441	-1.9	99,164	1.9	7,025,791,283	4.8	832,341	6.9	206,230	-7.38
2007	8,605	-1.9	97,274	2.7	6,702,052,747	3.9	778,856	5.9	222,670	0.22
2006	8,767	-1.0	94,752	2.9	6,449,863,880	8.7	735,698	9.8	222,190	6.06
2005	8,856	-2.4	92,043	2.5	5,933,762,988	8.6	670,027	11.1	209,490	10.38
2004	9,066	-2.1	89,785	2.2	5,464,782,399	6.5	602,778	8.7	189,790	9.37
2003	9,256	-2.4	87,790	1.4	5,132,110,038	11.4	554,463	14.0	173,520	7.67
2002	9,474	-3.0	86,578	0.6	4,606,091,939	6.5	486,182	9.6	161,150	7.09
2001	9,757	-3.7	86,069	0.7	4,326,207,001	8.1	443,395	12.0	150,480	6.96
2000	10,119	-2.2	85,492	1.4	4,003,744,079	5.8	395,666	10.5	140,690	6.70
10 Year Increase	********	-29.4	******	15.2	**********	91.7	********	248.0	********	28.6

[10] Banking statistics include deposits in domestic offices (50 states and DC), Puerto Rico, and U.S. Territories. Banking statistics are as of 6/30 of stated year.
[11] Housing statistics are a four quarter average derived FHFA Housing Price Index

FIGURE 1 – BANK INDUSTRY CHANGE - NUMBER OF INSTITUTIONS AND TOTAL DEPOSITS; 2000-2010



As figure 1 indicates, from 2000 to 2010, the number of banking institutions steadily declined from 2000 to 2010 while the total deposits increased from 2000 to 2010.

FIGURE 2 – BANK INDUSTRY CHANGE -AVERAGE SIZE OF INSTITUTION; 2000-2010

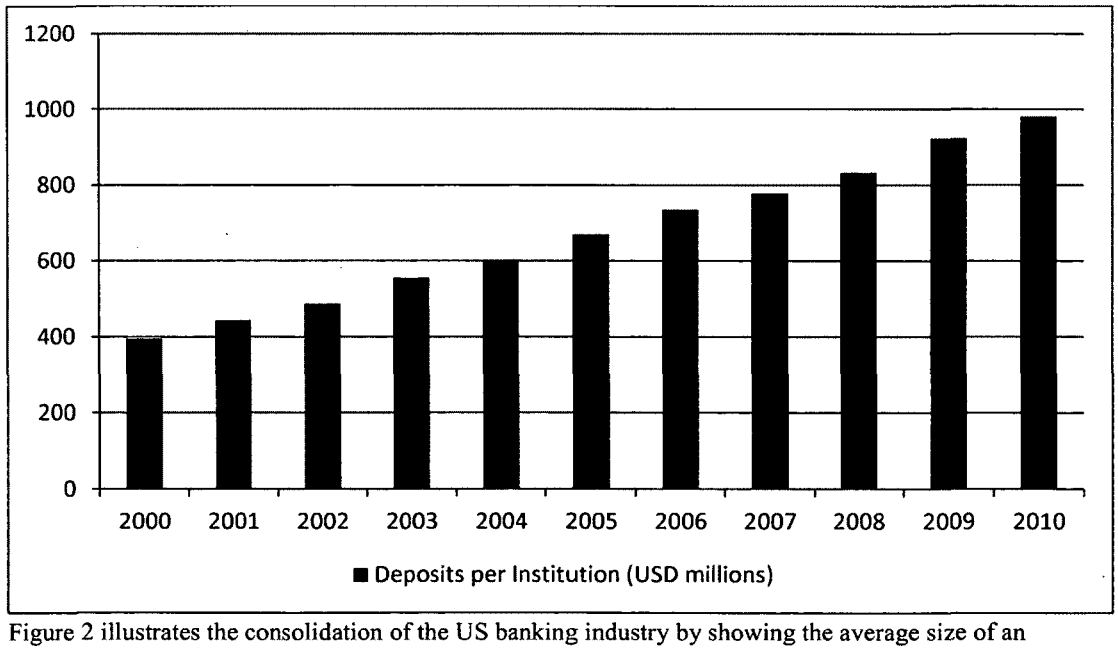


Figure 2 illustrates the consolidation of the US banking industry by showing the average size of an institution during this timeframe.

Expected Theoretical Contribution

To develop a better understanding of the current bank failures, it is necessary to understand how external and organizational factors interact to cause failure. In this dissertation, bank failure is addressed through managerial perspectives rather than traditional finance literature (see Beaver, 1966; Meyer and Pifer, 1970; Sinkey, 1975) highlighting deterministic and voluntaristic causes. The findings contribute to institutional theory, industrial organization economics, and resource-based view perspectives of firm failure literature.

Structure of Manuscript

This dissertation is organized in the following manner. In the second chapter, the existing literature on organizational failures is divided by research stream and reviewed. A conceptual model of the antecedents of failure is presented. Next, hypotheses are developed to empirically test both internal and external antecedents of firm failure within the US banking industry. In the third chapter, the methodology is presented, with an explanation of the sample, research design and operationalization of key variables. Subsequently, a detailed plan of data analysis follows. In the fourth chapter, the empirical findings of the various research models are presented. Finally, in the fifth chapter, the results of the analyses are discussed in depth along with limitations of the study and opportunities for future research.

CHAPTER II

LITERATURE REVIEW AND THEORETICAL MODEL

This chapter develops an exhaustive review of the literature on firm failure. The literature review is divided in several sections. First, various streams of failure literature are discussed. Next, the theories that adopt an external perspective – industrial organization economics and institutional theory – are reviewed separately. Following the review of external theories, an internal perspective- the resource-based view – is examined. Subsequently, a model of the antecedents of the US Banking failure is presented using the aforementioned theories. Finally, this chapter concludes with research hypotheses.

Firm Failure literature

The field of management is filled with an assortment of failure literature. Though research on failure is abundant, there is a lack of consensus about its antecedents (Cameron, Sutton & Whetten, 1988; Weitzel & Johnson, 1989). A review of the literature suggests that there appears to be inconsistent use of the term 'failure' as well. Various terms such as organizational decline (Whetten, 1980), organizational mortality (Carroll, 1983), organizational death (Freeman et al., 1983), bankruptcy (Sutton & Callahan, 1987), organizational extinction (Zuniga-Vicente & Vicente-Lorente, 2006), and organizational exit (Ross & Staw, 1993; Geroski, Mata, & Portugal, 2010), along with failure have all been used in previous studies. It should be noted that some of the aforementioned terms don't all share the same exact meaning or severity. Terms such as organizational decline, retrenchment, and downsizing are less severe. Even bankruptcy

may be considered different due to variations in the types of bankruptcy. Firms that file Chapter 11 bankruptcy in the United States are permitted to remain in control of their business as a debtor in possession while firms declaring Chapter 7 bankruptcy cease operations and liquidate their assets[12].

Bank failure, per FDIC guidelines, has a consistent definition. A bank fails when "it is unable to meet its obligations to depositors and others". When a bank failure does occur, the FDIC acts in two capacities. First, the FDIC pays insurance to the depositors, up to the insurance limit, as guaranteed by the Banking Act of 1933. Since its inception, no depositor has ever lost a penny of insured deposits since the FDIC was created. Secondly, as the "receiver" of the failed bank, the FDIC assumes the task of settling debts in excess of the insurance limit. This is unique to management literature as most other failures disappear. In contrast, failed banks often continue on with another financial institution with assistance from the FDIC. Of the 181 bank failures occurring between June 30th, 2009 and June 29th, 2010, 175 (96.7%) failures had FDIC financial assistance to become part of another institution. The remaining 6 (3.3%) bank failures were closed due to financial difficulty- similar to other corporate failures. In these instances, the FDIC settled all debts, but no new institution was created. Larger failing banks, such as Bank of America, are prevented from failure from the federal government. When a bank is large and interconnected with other institutions, they are bailed out to prevent wide spread failure. In this case, bank failure differs significantly from other corporate failures as the largest firms essentially cannot fail.

[12] http://www.sec.gov/answers/bankrup.htm

This dissertation encompasses the literature primarily on organizational exit, death, mortality and failure as failed banks differ from merged and acquired ones. Table 2 provides a summary of empirical articles that examine firm survival and failure. The empirical summary reviews nearly 30 years of failure literature beginning in the early 1980s.

The failure literature in the 1980s focused on external causes. It was assumed that organizations are embedded in their environments and, therefore, external factors have more explanatory power than firm level factors (McGahan & Porter, 1997; Rumelt, 1991). Determinism reflects the power of the environment over the organization (Bourgeois, 1984). Determinism focuses on adaptation to environmentally constrained processes where management has few options and little impact on overall firm success (Hannan & Freeman, 1977). According to Papadakis, Lioukas & Chambers (1998), strategic decisions and processes reflect "adaptations to opportunities, threats, constraints, and other characteristics of the environment". Managers are strategically unimportant as they are secondary to the external forces placed on the firm (Pfeffer, 1977, 1981; Pfeffer & Salancik, 1978).

By the 1990s, an increasing number of researchers began to examine internal reasons for firm failure. These scholars felt that previous literature was overly deterministic. External approaches ignore what is going on inside the firm. It fails to answer why firm in the same industry, facing the same industry level constraints, have different outcomes (Flamholtz & Aksehirli, 2000). The internal perspective provides an alternative pathway to survival based on the actions of individual organizations. Several studies demonstrated that performance is determined by strategy more so than industry

TABLE 2: SUMMARY OF EMPIRICAL LITERATURE ON FIRM FAILURE

Author (s)	Year	Data Set	Findings
Carroll & Delacroix	1982	Newspaper industry: 19th Century Argentinean Press 19th , 20th Century Irish Press	Industry maturity and general economic expansion enhance survival but timing of birth relative to business cycles does not affect survival. Organizational mortality rates vary across a wide range of environmental dimensions including industry age, economic development and political turbulence. There exists a major variation in organizational death rates occurring in the early ages of organizational life.
Carroll	1983	52 Data Sets: 23 retail firms, 20 manufacturing, 4 craft enterprises, 4 service enterprise, 1 wholesale enterprise	Finding supports liability of newness. Capital intensive manufacturing organizations generally showed lower death rates than other organizations.
Freeman, Carroll, Hannan	1983	3 populations: National labor unions Semiconductor electronic manufacturers Newspaper publishing companies	Also found support for liability of newness. Found a size-dependent, monotonic decline in the risk of mortality. Larger firms are assumed to have more resources, better managerial skills and closer inter-organizational relationships that presumably enhance the organizations capacity to withstand significant environmental changes.

TABLE 2 CONTINUED

Author (s)	Year	Data Set	Findings
Freeman & Hannan	1983	Restaurant organizations in 18 California cities. Sampled 985 establishments.	Niche Width Theory - environmental variations affect the life chances of specialist and generalist organization.
Carroll	1985	2,808 American local newspapers.	Resource partitioning model showed that specialist organizations respond differently to concentrated markets from generalist organizations: as the death rates of generalist go up, those of specialists go down. Niche Width Theory - When competition in the generalist market is high, generalists tend to die and specialists tend to live Specialists tend to dominate when uncertainty is high because the cost of generalism is high. Less concentrated markets can produce symbiosis between generalists and specialists.
Singh, House, & Tucker	1986	All 389 Voluntary social service organizations (VSSOs) that came into existence in metropolitan Toronto, Canada; 1970-1980.	Study examines impact of organizational change. Some changes are disruptive, some are adaptive and some have no impact on organizational mortality. Selection and adaptation are complementary; not contradictory.
Singh, Tucker, & House	1986	All 389 Voluntary social service organizations (VSSOs) that came into existence in metropolitan Toronto, Canada; 1970-1980.	External legitimacy significantly reduces organizational death rates. Internal organizational changes are unrelated to death rate.

TABLE 2 CONTINUED

Author (s)	Year	Data Set	Findings
Dunne, Roberts, & Samuelson	1988	4 digit SIC Codes: Manufacturing firms 300,000- 350,000 manufacturing firms per firm year; 1963-1982.	Substantial heterogeneity in entry and exit patterns across industry. Market share of each entering cohort declines as the cohort ages. Decline is driven by high exit rates that overwhelm the increase in the average size of surviving cohort members.
Hambrick & D'Aveni	1988	57 large bankruptcies. 57 matched survivors.	Weaknesses in failed firms show up relatively early. Features of the downward spiral include weaknesses in slack and performance, extreme and indecisive strategic actions, and abrupt environmental decline.
Carroll & Hannan	1989	5,207 newspapers from nine populations; both international and domestic. Dates ranged from 1800 – 1975.	Density Dependence – the number of organizations is assumed to be a function of the social processes of legitimization and competition. The model of density dependence asserts that founding rates and mortality rates are a function of the social processes of legitimation and competition. At low density, the model predicts that the legitimation process will dominate and will lead to high organizational founding rates and low organizational mortality rates. At high levels of density, competition will dominate, and consequently founding rates will decline and mortality rates will rise.

TABLE 2 CONTINUED

Author (s)	Year	Data Set	Findings
D'Aveni	1989	Matched Sample 49 Bankrupt firms 49 Non-Bankrupt firms Firms were matched by environment and size.	Defined organizational decline in a new way: treating decline as a pattern of decrease over time in a firm's internal resources measured by an index of internal resource munificence. Results indicate four findings: (1) Found existence of different patterns of decline. (2) Patterns of decline are related to time of the consequences of decline. (3) Consequences of decline include managerial imbalances, actions concerned with efficiency, centralization effects, and strategic paralysis. (4)Firms may delay or even avoid bankruptcy if their environment is sufficiently buoyant (growing) to support a resource deficient firm.
Bruderl & Schussler	1990	Complete set of business registrations and deregistrations for Munich and Bavaria (West Germany) from January 1, 1980 to March 31, 1989.	Challenged the liability of newness argument theoretically and empirically with the liability of adolescence perspective. Liability of adolescence distinguishes between two periods of an organizational life cycle. Adolescence phase – death rates are low, following a non-monotonic risk function. New organizations typically possess a stock of slack resources. The higher the initial endowment, the longer duration of adolescence. Post-adolescence phase- monitoring ends and endowments return to equilibrium and organizations are subject to usual risks of failure.

TABLE 2 CONTINUED

Author (s)	Year	Data Set	Findings
Baum & Oliver	1991	Child care service organizations in Toronto, Canada between 1971 and 1987.	Institutional relation plays a significant role in reducing the likelihood of organizational mortality. Institutional attachments confer a variety of survival advantages on organizations such as increased stability, social support, legitimacy, access to resources, and invulnerability to questioning. Younger organizations benefit more from institutional linkages than older ones when faced with liability of newness.
Levinthal	1991	All newspapers founded in Argentina from 1800-1900 and Ireland from 1800-1975.	Surviving organizations will tend to be organizations successful in prior periods consequently buffering them from subsequent selection pressure.
Baum & Mezias	1992	Manhattan Hotel Industry 1898-1990.	Hotels located in densely populated regions of the distributions of organizational size, geographic location, and price experienced significantly higher failure rates.
Bruderl, Preisendorfer, & Ziegler	1992	1,849 German entrepreneurs.	Organizational characteristics, especially number of employees, amount of capital invested, and organizational strategies (particularly businesses aiming at a national market) are the most important determinants of survival.

TABLE 2 CONTINUED

Author (s)	Year	Data Set	Findings
Amburgey, Kelly, & Barnett	1993	1,011 Finnish newspapers over 193 years.	Organizational change can be both adaptive and disruptive. Overtime, the same forces that make organizations inert also make them more malleable. Organizational changes have two consequences: (1)Immediate increase in the hazard of organizational failure. (2)Immediate increase in the likelihood of additional changes of the same type. The immediate effect declines over time in both cases.
Mitchell	1994	Seven America product markets established between 1950s and 1980s. 415 product market entries that involved 327 distinct companies.	Explores the interrelationship of economic, ecological, and evolutionary explanations of firm survival. The influences of business sales and age differ systematically by the type of entrant and type of exit. The dissolution rate declined greater with sales and age for startup firms.
Gimeno, Folta, Cooper, & Woo	1997	1,547 entrepreneurs of new businesses in the US.	Threshold model – explains why some firms survive while other firms with equal economic performance do not. Survival is dependent on a firm's own threshold of performance. The Threshold is determined by the entrepreneur's human capital characteristics such as alternative employment opportunities, psychic income, and cost of switching to other occupations. Findings suggest that firms with low thresholds may choose to continue or survive despite comparatively low performance.

TABLE 2 CONTINUED

Author (s)	Year	Data Set	Findings
Ranger-Moore	1997	New York life insurance companies; 1813-1985.	Organizational size affects failure rates non-monotonically. Large size almost always lowers failure rate. Finds strong liability of aging in contrast to liability of newness and adolescence. Organizational inertia is especially problematic during periods of environmental turbulence.
Pennings, Lee, & Witteloostuijn	1998	Dutch accounting firms; 1880 – 1990 2,081 firms total.	Human and social capital strongly predicted firm dissolution. Effects depended on their specificity and non-appropriability. Findings suggest an integration of the resource based view of the firm and organizational ecology.
Henderson	1999	US personal computer industry; 1975-1992. 649 firms entered 441 firms failed 3,022 firm years.	Technology strategy has two important influences on aging. Age dependence varied across strategies. The joint effects of age and strategy produced long term trade-offs across difference performance outcomes. Multiple patterns of age dependence may simultaneously exist within a single population.

TABLE 2 CONTINUED

Author (s)	Year	Data Set	Findings
Agarwal, Sarkar, & Echambadi	2002	33 product innovations that span most of the 20th century.	Found impact of time on both survival rates and relationships previously thought to be universalistic.
Haveman & Khaire	2004	US Magazine Industry; 1741 to 1861.	Ideology is a strong moderator of the relationship between founder succession and organizational failure. Ideology conditions the impact of managerial roles and organizational affiliations on failure following founder succession.
Knott & Posen	2005	US Banking Industry; 1984 – 1997.	Failed firms generate externalities that significantly and substantially reduce industry cost. On average these benefits exceed the private costs of the entrants. Thus failure appears to be good for the economy.
Kim & Miner	2007	All FDIC-insured commercial banks chartered from January 1, 1984, through December 31, 1998	Organizations learn from near-failures. Failure-related experience occurring in the same geographic market matters more than experience outside of the market.
Geroski, Mata, & Portugal	2010	All 118,070 Portuguese new firm startups from 1983-1993.	Economics, organizational ecology and the resourced-based view of the firm have all been used to examine firm survival. There is no absolute superiority of any of the aforementioned theoretical perspectives over the others, and there are important elements in all of them to explain the survival of firms.
Trendowski	2011	181 Bank failures; 2009-2010.	Bank failures are associated with different internal and external antecedents during a financial crisis.

(Brush, Bromiley, & Hendricks, 1999; Flamholtz & Aksehirli, 2000; Mauri & Michaels, 1998) conflicting with earlier studies done by McGahan & Porter (1997) and Rumelt (1991).

Recently, research has incorporated multiple internal and external perspectives to get a more complete picture of firm failure (see Geroski, Mata, & Portugal, 2010). This dissertation aims to extend failure research by using multiple theories and viewing failure from internal and external perspectives.

Failure Debate: Internal or External Causes

One of the prominent debates in firm failure literature is whether external (Baum & Mezias, 1992; Singh, Tucker, & House, 1986) or firm level factors (Brush et al. 1999; Mauri & Michaels 1998) have more explanatory power. The deterministic viewpoint argues that when it comes to failure, industry matters more than the firm. It postulates that failure is caused by external factors that management has little or no control over. The external viewpoint coincides with the industrial organization (IO) economics (Porter, 1980), institutional theory (Meyer & Rowan, 1977), systems theory (Anderson, 1999) and population ecology[13] (Hannan & Freeman, 1977) literature.

The IO perspective includes three underlying assumptions (Mellahi & Wilkinson, 2004). First, the IO perspective assumes that the external environment imposes pressures and constraints on firm strategies which would lead to failure. Secondly, firms operating in the industry, or niche within, are assumed to pursue the same strategy. Finally, since organizational decision makers are assumed rational and committed to the firm's best interest, failure cannot be caused by them alone.

[13] This dissertation does not use the population ecology or systems theory perspectives.

Institutional theory posits that an organization's survival prospects increase as it gains legitimacy, social support, and approbation from external constituents of its institutional environment (Meyer & Rowan, 1977; DiMaggio & Powell, 1983; Meyer & Scott, 1983; DiMaggio, 1988; Powell, 1988; Scott, 1995). The basis for institutional theory is that organizations take actions that make them more similar (to achieve legitimacy) and not necessarily more efficient (DiMaggio & Powell, 1983). Within institutional theory, legitimacy is a stronger determinant of survival than efficiency.

Within systems theory, industries evolve in a dynamic, path dependent manner over time as a result of complex interactions (Levy, 1999). The structure of the industry influences firm behavior, while the firm behavior has the ability to alter the structure of the industry and the contours of competition (Levy, 1999). Adaptive entities contain an adaptive inner environment (Simon, 1996). Complex adaptive systems evolve when new agents or new schemata are introduced (Anderson, 1999). They consist of a large number of dynamically (usually non-linear) interacting elements (McKelvey, 2004), where decisions by one actor take into account potential reactions by others, thereby reflecting interdependence among firms. Failure or success, within systems theory, is the outcome of complex interactions between an organization and its changing environment (Levy, 1999). Highly ordered systems are too rigid (versus adaptive systems) to successfully coordinate new behaviors and therefore will likely fail (Schneider & Somers, 2006).

Population ecology postulates that organizational survival is the result of environmental pressures that differently select adaptive forms for retention in an organizational population (Hannan & Freeman, 1977). Among the various environmental selection criteria facing organizations, population ecologists have elaborated specifically

on external pressures for legitimacy and the forces of competition and institutionalization (Hannan & Freeman, 1984).

The primary weakness of the external viewpoints lies in what is ignored. By placing all the focus on external factors, little attention has been paid to internal firm factors. Since most industries have an array of successful and non-successful firms, the IO perspective, by itself, seems overly deterministic. It fails to provide an alternative pathway to survival based on the actions of individual organizations. The perspective omits the possibility that an organization, through rational action, has the ability to achieve survival.

The internal approach assumes managers control their destiny. Managers are viewed as the principal decision makers of the firm (Hambrick & Mason, 1984) and their perception of the external environment has a strong effect on how they manage or mismanage the firm (Mone et al. 1998). The strategic choice (Child, 1972) is emphasized over the external context of the decision. Failure is linked to internal inadequacies dealing with external threats. Internal causes of failure may arise from (a) impulsive decisions that overextend the organizations assets, (b) not responding to change, (c) an executive who is either too powerful or poorly informed, and (d) unnecessary risk taking (Mellahi & Wilkinson, 2004). I expand on these external and internal causes of firm failure in greater detail after a brief discussion of the changes in the banking industry environment.

Banking Industry Environment Changes

Two major regulatory changes in the 1990s have drastically altered the banking industry's competitive environment. In the past, regulations limiting intrastate banking

protected small and inefficient banks from external competition (Kroszner & Strahan, 1999). The Riegle-Neal Interstate Banking and Branch Efficiency Act (IBBEA) of 1994, afforded banks greater ability to operate across state lines. Prior to IBBEA, bank operations were limited geographically. Neighborhood banks were able to evolve independently without concern from outside competition. However, once this act was established, additional competition could come from similar sized banks across state lines or large national banks from anywhere in the US.

Opponents of deregulation argued that it would lead to a highly concentrated banking market, where consumers would suffer at the expense of higher bank profits (Dick, 2008). Banks that were opposed to deregulation and the subsequent branch banking were the same institutions that were most likely to suffer from it (Kroszner & Strahan, 1999). Without the protection of geographic barriers, small community banks would now face an open market of competition. Upon the removal of geographic limiting barriers, small-inefficient banks immediately lost market share (Yildirim & Mohanty, 2010) as large firms become large because they are efficient (Demsetz, 1973).

Subsequently, the Gramm-Leach-Bliley Act of 1999, which permitted banks to operate in multiple lines of business, provided additional advantages to larger banks. National banks through their vast resource networks and economies of scale are able to offer features that customers may find useful such as product diversification or service expertise. The Gramm-Leach Bliley Act (GLBA) repealed the separation of investment banking and commercial banking from the Glass-Steagall Act of 1933[14]. GLBA provided

[14] The Glass-Steagall Act, also known as the Banking Act of 1933, was designed to control speculation. It protected bank depositors from additional risks associated with security transactions by prohibiting depository institutions from engaging in investment business. Additionally, the GSA created the Federal

financial holding companies the ability to engage in underwriting and selling insurance and securities; commercial and merchant banking; investing in and developing real estate; and other complimentary activities. GLBA also permitted bank holding companies to own other financial institutions. Previously, the Bank Holding Company Act (BHCA) of 1956[15] prohibited such activity. Table 3 provides major regulatory changes in the US banking industry during the 1990s.

Institutional Theory

According to DiMaggio & Powell (1983) institutional forces make organizations more similar rather than more heterogeneous. Isomorphism with the institutional environment serves to enhance the legitimacy of organizations, which results in higher rates of organizational survival (DiMaggio & Powell, 1983). Institutionalization is the process by which actions are repeated and given a similar meaning by an individual and by others (Scott, 1995). DiMaggio & Powell (1983) declared mimetic isomorphism – referring to organizations who model themselves after organizations perceived to be more legitimate in response to uncertainty - as one of the mechanisms through which isomorphic change occurs.

Deposit Insurance Corporation (FDIC) to further protect depositors by insuring their deposits; Up to $5,000 in 1934 and up to $250,000 today. To date, no depositor has lost any FDIC insured funds.

[15] Originally, BHCA required the Federal Reserve Board of Governors approval to form a bank holding company. It was designed to regulate and control banks that formed holding companies to own both banking and non-banking business. Bank holding companies were prohibited from acquiring banks in other states.

TABLE 3: RECENT REGULATORY CHANGES IN THE US BANKING INDUSTRY

Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994
• Permits adequately capitalized and managed bank holding companies to acquire banks in any state one year after enactment. • Concentration limits apply and CRA evaluations by the Federal Reserve are required before acquisitions are approved. • Beginning June 1, 1997, allows interstate mergers between adequately capitalized and managed banks, subject to concentration limits, state laws and CRA evaluations. • Extends the statute of limitations to permit the FDIC and RTC to revive lawsuits that had expired under state statutes of limitations.
Gramm-Leach-Bliley Act of 1999
• Repeals Glass Steagall Act of 1933. • Modifies Bank Holding Company Act to allow affiliations between banks and insurance underwriters. • Prohibits state actions that may prevent bank-affiliated firms from selling insurance on an equal basis with other insurance companies. • Law creates new financial holding company authorized to engage in: underwriting and selling insurance and securities, conduction both commercial and merchant banking, investing in and developing real estate and other "complementary activities" • Amends the Community Reinvestment Act to require that financial holding companies cannot be formed before their insured depository institutions receive and maintain a satisfactory CRA rating. • Requires public disclosure of regulatory relief to small institutions in the shape of reducing the frequency of their CRA examinations if they have outstanding or satisfactory ratings. • Prohibits affiliations and acquisitions between commercial firms and unitary thrift institutions. • Significant changes to the Federal Home Loan Banking System. Eases membership requirements and loosens restrictions on the use of FHLB funds.

*Regulatory changes are listed in the FDIC database.

Finally, survival under institutional theory depends on the acquisition of cognitive and socio-political legitimacy (Meyer & Rowan, 1977). Cognitive legitimacy is defined as the degree to which an organization's activities are taken for granted (Shane & Foo, 1999). Socio-political legitimacy is the "extent to which a new firm conforms to recognized principles or accepted rules and standards" (Aldrich & Fiol, 1994). Survival is enhanced through legitimacy by making it easier for new firms to attain access to resources (Aldrich & Auster, 1986), draw customers (Wiewel & Hunter, 1985), answer challenges about competence (Shane & Foo, 1994), face competitive threats (Baum & Oliver, 1991), and appear to be reliable (Hannan & Freeman, 1984). In addition to cognitive legitimacy, Scott (1995) discusses normative and regulative legitimacy as pillars of institutions that provide stability and meaning to social behavior. The normative pillar is socially enforced, and includes values and norms that are internalized by society. The regulative pillar is politically enforced. It reflects coercion, monitoring, enforcement and conformity to rules. Thus, institutional logic suggests that deregulation created uncertainty that led to enhanced imitation behavior. Moreover, firms that complied with new regulations and new norms of behavior achieved legitimacy whereas firms that did not do so failed to attain legitimacy. Table 4 shows institutional theory development.

TABLE 4: INSTITUTIONAL THEORY DEVELOPMENT

Author (s)	Year	Journal	Key Points
Meyer & Rowan	1977	American Journal of Sociology	Institutional rules function as rationalized myths that organizations incorporate to gain legitimacy, maintain stability, acquire resources, and enhance their survival prospects. Firms decouple their formal structures from their actual activities, because myths may be inconsistent with requirements for efficiency. Power plays an important role by influencing institutional norms; powerful organizations were seen as being able to construct their organizational goals, values, and procedures directly into society as institutional norms, rules, and practices. Isomorphism is explained is two ways: (1) boundary-spanning linkages between organizations and the environment were the result of technology exchange relationships and forced diffusion of institutional norms, practices, myths, etc. and (2) organizations structurally reflect socially constructed reality.
DiMaggio & Powell	1983	American Sociological Review	Institutional forces make organizations *more similar* rather than *more heterogeneous*. Power is reflected by an organization's ability to 'define' or 'influence' rationalized social myths. Organizational changes occur because of processes that make organizations more similar, but not necessarily more efficient. Three mechanisms through which isomorphic change occurs: (1) coercive isomorphism (resulting from formal and informal pressures exerted on organization by other organizations with whom they are dependent); (2) mimetic isomorphism (refers to organizations who model themselves after organizations perceived to be more legitimate in response to uncertainty); (3) normative isomorphism (stems from two forms of professionalization, formal education and professional networks).

TABLE 4 CONTINUED

Author (s)	Year	Journal	Key Points
Covaleski & Dirsmith	1988	Administrative Science Quarterly	Institutions are designed to preserve power and permit self-interest seeking. Behind every institution lies the threat of coercion (not conforming can bring it out).
DiMaggio	1988	Institutional patterns and organizations: Culture and environment (Book chapter)	Institutions are a political process and the relative power of actors determines them. New institutions tend to arise in response to an actor's motives to achieve some self-interested goal. The success of a given institution often legitimizes not only the institution itself, but also its members.
North	1990	Institutions, Institutional Change and Economic Performance (Book)	Defines institutions as the rules of the game in a society - "the humanly devised constraints that shape human interaction". Institutions are the rules of the game and organizations are the players.
DiMaggio & Powell	1991	The New Institutionalism in Organizational Analysis (Book)	Institutions can create economic benefit through social processes that benefit the involved actors both directly and indirectly. The success of the collective action of the institution often depends on the creation of accepted rules. Actors "discover their preferences".
Haveman	1993	Administrative Science Quarterly	Organizations will imitate the behavior of successful organization. Firms within an industry tend to imitate large and profitable organizations. Large organizations serve as "role models" for other large organizations.

TABLE 4 CONTINUED

Author (s)	Year	Journal	Key Points
Scott	1995	Institutions and Organizations (Book)	Institutions consist of cognitive, normative, and regulative "pillars" that provide stability and meaning to social behavior. The cognitive pillar is constitutive, i.e. is culturally supported and conceptually correct. It includes symbols, codes, rules that are constitutive of the nature of reality, experiences, etc. The normative pillar is socially enforced, and it includes values and norms that are internalized by society. It follows a normative mechanism to isomorphism. The regulative pillar is politically enforced. It reflects coercion, monitoring, enforcement and conformity to rules. It offers a social realists' view that individuals respond to, rather than enact, the environment. It follows a coercive mechanism of isomorphism.
Tolbert & Zucker	1996	Handbook of Organizational Studies	Institutions originate through a three stage process: (1) Habitualization: organizational actors develop new structural arrangements in response to a specific organizational problem or set of problems. (2) Objectification: the formation of some degree of social consensus in the organization about the value of the given process or structure and the adoption by organizational members or other organizations based on that consensus. (3) Sedimentation: the spread of the given processes or structures across the full range of relevant actors and by the maintenance of these processes and structures over time.

TABLE 4 CONTINUED

Author (s)	Year	Journal	Key Points
Haunshild & Miner	1997	Administrative Science Quarterly	Imitation is more common under conditions of uncertainty. Presented three models of inter-organizational imitation: (1) Frequency imitation – copying of common practices (2) Trait imitation – copying features used by certain firms (3) Outcome imitation – based on the impact of others Found support for frequency and trait-based imitation. Outcome imitation was only supported for very high or very low saliency.
Staw & Epstein	2000	Administrative Science Quarterly	Conforming to institutionalized rules can improve legitimacy and admiration for a corporation and its managers. Companies that followed institutionalized rules were more admired, were perceived to be more innovative and rated to have higher quality management. However, these firms did not achieve higher performance.
Campbell	2007	Academy of Management Review	Institutional conditions mediate relationship between economic conditions and corporate behavior. These include: public and private regulation, the presence of nongovernmental other independent organizations that monitor corporate behavior, institutionalized norms regarding appropriate corporate behavior, associative behavior among corporations themselves, and organized dialogues among corporations and their stakeholders.

Industrial Organization Economics

IO economics argues that firm performance is primarily a function of the industry environment in which it competes. Since structure determines conduct, which in turn determines performance, conduct can be ignored and performance can therefore be explained by structure (Bain, 1968). Mobility barriers and market positions are viewed as the critical sources of competitive advantages for superior performance.

Early IO economics was concerned with the economy-wide performance of a complex of businesses (Bain, 1956, 1968). Bain took an external approach and used the industry, or competing group of firms, as the unit of analysis. By the early 1970s research on strategic groups – groups of firms within the same industry that follow similar strategies (Hunt, 1972; Newman, 1978) began to emerge. Strategic group membership is important to firms as it is highly associated with firm performance (Nair & Kotha, 2001).

Porter (1980; 1985) made the most prominent contribution to the field of strategic management employing IO economics logic. His structural analysis of industries (Porter, 1980) focuses on competition beyond a firm's immediate and existing rivals. Porter's (1980) Five Forces Model clearly specifies the various aspects of an industry structure, providing a useful analytic tool to assess an industry's attractiveness and facilitating competitor analysis. The ability for a firm to gain competitive advantage rests mainly on how well it positions and differentiates itself in an industry. Table 5 shows industrial organization economics theory development.

TABLE 5: IO ECONOMICS THEORY DEVELOPMENT

Author (s)	Year	Journal	Key Points
Schumpeter	1942	Capitalism, Socialism, and Democracy	Linked wealth creation directly to the process of opportunity discovery and strategy formulation. New firms and new resource combinations within established firms are introduced into an economic system.
Bain	1968	Industrial Organization	Firm's performance is primarily a function of the industry environment in which it competes, and because structure determines conduct, which in turn determines performance, conduct can be ignored and performance can therefore, be explained by structure.
Demsetz	1973	Journal of Law and Economics	Monopoly power can be efficient; yielding firm-level advantages particularly where large technological investments are necessary. Challenged the traditional economic view that collusion and monopolies lead to inefficiencies. Challenged some basic beliefs about size, structure, efficiency and competition. If increased concentration has come about because of the superior efficiency of those firms that have become large, then an anti-merger policy, while it may reduce the ease of colluding, it may also lead to inefficiencies either through penalizing innovative success or by the shift in output to smaller, higher cost firms that it brings about. Larger firms become larger because they are more efficient.

TABLE 5 CONTINUED

Author (s)	Year	Journal	Key Points
Porter	1980	Competitive Strategy	Focused on competition beyond a firm's immediate and existing rivals; the Five Forces Model. The ability for a firm to gain competitive advantage rests mainly on how well it positions and differentiates itself in an industry.
Schmalensee	1985	American Economic Review	Found industry effects accounted for about 20% of the variance in business-unit returns (and almost 100% of the total variance explained); Corporate effects did not account for any variance (leaving 80% of total unexplained variance).
Scherer and Ross	1990	Industrial Market Structure and Economic Performance	Industry concentration leads to collusion and subsequently to greater profits. Lack of competition brought on by collusive activity will mean higher than normal prices and thus profits.

TABLE 5 CONTINUED

Author (s)	Year	Journal	Key Points
Porter	1991	Strategic Management Journal	Outlines framework for dynamic theory of strategy, which separates the theoretical framework into the sources of superior performance (the cross-sectional problem) and the dynamic process by which competitive positions are established over time (the longitudinal problem). Argues that firms sustain competitive advantage because of their capacity to develop and pursue strategies and actions that continuously adapt, innovate, and upgrade their competitive position over time. Exploitation of distinctive competences – firm strategy concerned with creation and exploitation of competences.
Hoskisson and Hitt	1990	Journal of Management	With perfect competition, no strategy will allow firms to gain an advantage over rivals.
Rumelt	1991	Strategic Management Journal	Inter-firm heterogeneity within industries explains firm performance much more than industry membership.
McGahan and Porter	1997	Strategic Management Journal	Industry represents an important factor in affecting firm performance. Industry effects are more important in accounting for firm performance in service industry than manufacturing industry.
Dean, Brown, & Bamford	1998	Strategic Management Journal	Industry environment has differential effects on large and small firms.

Resource-Based View

The resource-based view attempts to explain heterogeneity between firms on the basis of resources. The theory holds that variance in competitive outcomes stems from differences in the characteristics in rivals' resources (Barney, 1991) and capabilities (Miller, 2003). Survival is dependent upon the application of this heterogeneous bundle of resources. In the resource-based view, the firm's resources (Barney, 1991) and method of deploying them (Penrose, 1959) are the basis for sustained competitive advantage. Therefore, firm survival is largely determined by the "extent to which firms develop firm-specific assets that cannot be imitated by competitors and that provide the basis for their competitive advantage" (Geroski, Mata, & Portugal, 2010).

The resource-based approach focuses on the costly-to-copy attributes of the firm as a source of competitive advantage and performance. Initial resource-based view literature was economic in nature. Penrose (1959) viewed organizations as: (a) an administrative framework that links and coordinates activities of numerous individuals and groups; and (b) a bundle of productive resources. Therefore firm growth, in RBV, is limited "by the productive opportunities that exist as a function of the bundle of productive resources controlled by a firm and by the administrative framework used to coordinate the use of these resources". In contrast to deterministic viewpoints, Penrose (1959) elaborated that firms can be fundamentally heterogeneous even if they are in the same industry.

Heterogeneity (Barney, 1986) is a function of the manner in which firms acquire and accumulate resources from imperfectly competitive strategic factor markets in order to pursue the strategies of the firm. Amit and Shoemaker (1993) attribute heterogeneity to

managerial decisions that are characterized by uncertainty, complexity, and conflict. They argue that firm heterogeneity occurs due to the realization of sustainable rents as a function of: (a) resource and market imperfections, and (b) the discretionary decisions made by managers about resource development, and deployment that lead to differences in the resources and capabilities that the firm controls. Amit and Shoemaker (1993) conclude that economic rents persist from imperfect and discretionary decisions to develop and deploy selected resources that are made by boundedly rational managers facing high uncertainty, complexity, and intra-firm conflict. Due to uncertainty, complexity, and conflict, firms will employ different strategic assets.

Firm survival within RBV, is largely determined by the extent to which firms develop firm specific assets that cannot be imitated by competitors, and thus provide basis for their competitive advantage (Geroski, et al., 2010). These resources can be anything that is considered a strength or weakness of the firm (Wernerfelt, 1984). Table 6 shows resource-based view theory development.

TABLE 6: RESOURCE BASED VIEW THEORY DEVELOPMENT

Author (s)	Year	Journal	Key Points
Penrose	1959	Book; Oxford University Press	Observed that the bundles of productive resources varied between firms Firm growth and competitive advantage could be understood (a) as an administrative framework that links and coordinates the activities of the firm and (b) by the productive opportunities that exist as a function of the bundle of productive resources. Resources are heterogeneous between firms; that is, competing firms possess different bundles of resources.
Wernerfelt	1984	Strategic Management Journal	Resource is defined as anything that can be thought of as a strength or weakness of the firm; specifically, tangible and intangible assets which are tied semi-permanently to the firm. Strategy must balance the development of new resource with the exploitation of current resources.
Rumelt	1984	Book Chapter; in Competitive Strategic Management (Lamb, R.B. 1984)	Defined firms as a bundle of productive resources and suggested that firm heterogeneity and thus the economic value of these resources will vary, depending on the context within which they are applied. Firms are heterogeneous due to their specific resources, and that firms make different choices based upon their resources.
Barney	1986	Management Science	Firm heterogeneity is a function of the manner in which firms acquire and accumulate resources from strategic factor markets (SFMs) which are imperfectly competitive, in order to pursue the strategies of the firm
Dierickx & Cool	1989	Management Science	Asset stocks are strategic to the extent that they are non-tradable, inimitable, and non-substitutable; critical resources are accumulated rather than acquired in strategic factor markets and that the sustainability of a firm's asset position is a function of the ease with which assets can be substituted or imitated.

TABLE 6 CONTINUED

Author (s)	Year	Journal	Key Points
Barney	1991	Journal of Management	Firm heterogeneity and thus sustained competitive advantage is a function of firm resources that have the following attributes: Valuable: resource must have value; Rareness: refers to the physical or perceived physical rareness of the resources in the factor markets; Inimitability: which is the continuation of imperfect factor markets via information asymmetry such that resources cannot be obtained or recreated by other firms without a cost disadvantage; and Non-substitutability: when no strategically equivalent alternatives exist; that is, where two (or more) valuable firm resources should not be equivalent when each can be exploited separately to implement the same strategies.
Castanias & Helfat	1991	Journal of Management	RBV addresses the incentives problems within agency theory. The creation and appropriation of rents help align the interests of a firm's owners and managers. Managers are believed to have inherent incentives to perform well.
Amit & Schoemaker	1993	Strategic Management Journal	Heterogeneity between firms is attributed to managerial decisions that are characterized by uncertainty, complexity and conflict, such that different firms will employ different strategic assets. By definition firms must be doing something specialized or unique to develop a competitive advantage.

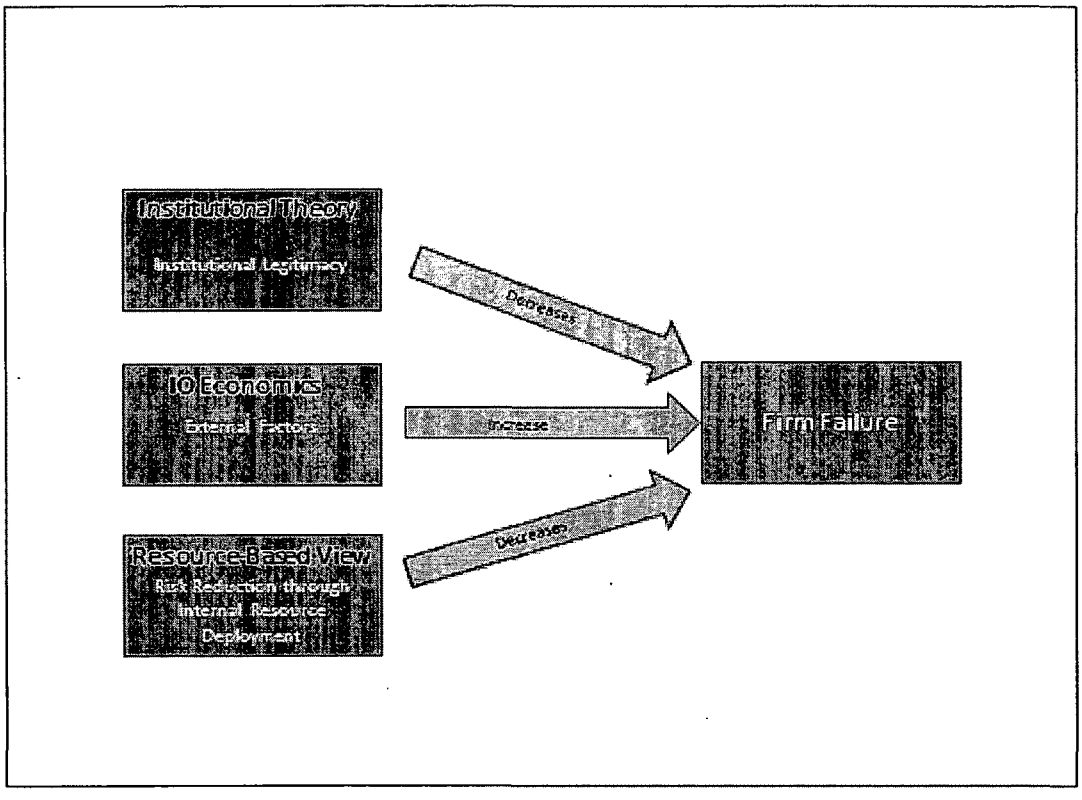
TABLE 6 CONTINUED

Author (s)	Year	Journal	Key Points
Black & Boal	1994	Strategic Management Journal	Firm heterogeneity and sustainable competitive advantage is a function of the way in which firms construct a network of relationships between resources, i.e., the dynamic bundling of resources. Resources are made up of factor networks. Inter-factor (internal network) and inter-resource (external network) relationships are the basis of sustained competitive advantage.
Miller & Shamsie	1996	Academy of Management Journal	The value of the firms resources are a function of the type of resources (property-based or knowledge-based) that the firm possesses and the level of environmental dynamism in the environment.
Makadok	2003	Strategic Management Journal	Integrates agency theory and behavior decisions theory with RBV. Argues that sustainable competitive advantage is a function of (1) the accuracy of the manager's expectations about the future value of the firm's resources and (2) the severity of agency problems that cause managers' interests to diverge from that of its shareholders.
Denrell, Fang, & Winter	2003	Strategic Management Journal	The sustainability of economic rents over time are potentially a function of (1) imperfect markets and (2) the degree to which the firm's search routines are enabled (or constrained) by its existing stock of resources such that the firm is able to identify opportunities that are not otherwise visible to its competitors.
Newbert	2007	Strategic Management Journal	RBV support varies considerably with the independent variable and theoretical approach employed. Extensions of the traditional RBV may be more useful when examining organizational context as opposed to static resources.

Model of Firm Failure

Based on prior literature and research questions, a model of the antecedents of the failure is proposed in Figure 3.

FIGURE 3: RESEARCH MODEL.



Hypotheses Development

This study examines the antecedents of firm failure. Hypotheses are developed to test both the internal and external factors contributing to firm failure. First, examining external factors, this study looks at how variations in institutional and macroeconomic factors may impact a firm's chance of survival. Using institutional theory and industrial organization economics frameworks, hypotheses are developed and tested. Next, the focus turns internally towards the firm's operations. Using the resource-based view of the firm, hypotheses are developed and tested to determine how the application of resources determines firm failure.

External antecedents

Institutional theory perspective

Within institutional theory, legitimacy is defined as the acceptance of an organization by its external environment (DiMaggio & Powell, 1983; Meyer & Rowan, 1977; Meyer & Scott, 1983), and is the primary driver of organizational survival (DiMaggio & Powell, 1983). Legitimacy is a social judgment that is ultimately rendered to the organization by its constituents. Organizations are more likely to survive by obtaining legitimacy from external constituents of the institutional environment (Baum & Oliver, 1991).

However, only certain actors have the standing within the environment to confer legitimacy (Meyer & Scott, 1983; Galaskiewicz, 1985; Baum & Oliver, 1991). Government regulators, who have authority over the organization (Baum & Oliver, 1991; Galaskiewicz, 1985; Meyer & Scott, 1983), are one source of legitimacy. Government deregulation of branch banking permitted banks to become larger. Larger banks typically

enjoy an implicit government guarantee that stems from their systemic importance (Boyd & Runkle, 1993). They also have a greater potential to impact the entire banking system, and thus are protected.

In this recent bank failure, larger banks were assisted because of their perceived importance to the banking community. If they were to fail, there would be a greater likelihood of bank runs as the system itself would lose legitimacy. As a result, AIG, Bank of America, Citigroup, Fannie Mae, Freddie Mac, GMAC and other large firms received special government assistance in the form of loans, guarantees, or capital injections to avoid failure (Aubuchon & Wheelock, 2010). Legitimacy provided by both the government and public opinion helped insulate large banks from failure during this banking crisis.

H1: Larger bank size will be associated with lower failure rates.

In additional to organizational size, organizational age strongly determines legitimacy (Deephouse, 1996). As organizations grow older, they are more likely to develop stronger exchange relationships with other organizations, become a part of the power hierarchy, and come to have their actions endorsed by powerful collective actors (Stinchcombe, 1968). Thus older organizations are likely to be viewed as more legitimate as they will enjoy increased access to public and official resources thus improving their survival chances (Singh, Tucker, & House, 1986). Institutional attachments confer a variety of survival advantages on organizations such as increased stability, social support, legitimacy, access to resources, and invulnerability to questioning (Baum & Oliver, 1991). In most instances, nothing legitimates more than longevity (Deephouse, 1996).

H2: Organizational age will be negatively associated with failure rates.

Regulatory changes and technology improvements altered the competitive landscape of banking. The banking industry experienced significant change after the Gramm-Leach-Bliley Act of 1999 eliminated barriers between insurance, banking, and securities industries, thus creating a completely new financial services industry (Yildirim, Kwag, & Collins, 2006). Concurrently, the internet was becoming a powerful tool for banking services. Internet banking provided cost savings to banks from having fewer staff and physical branches as well as scale effects in bank operations (Shi, Shambare, & Wang, 2008). Internet banking also benefits the customer by providing cost and time savings, reduced dependency on location, quicker responses to complaints and improved services quality (Shi, Shambare, & Wang, 2008). Older, more established banks, with a large number of physical branches face liability of aging (see Ranger-Moore, 1997). The combined influences of imprinting, inertia, and environmental change render the core technologies of old organizations obsolete (Sorensen & Stuart, 2000). Therefore banks launched after 1999 will have a survival advantage over banks launched pre-deregulation.

H2b: Banks founded after the Gramm-Leach-Bliley Act will have lower failure rates than banks founded prior to 1999.

IO perspective

Several environmental factors contribute to determining the firm's expected level of performance, including the number of firms present and their size (Porter (1987). Concentration in the banking industry is limited as antitrust enforcement prevents mergers of non-failed banks that would significantly increase the concentration of local banking markets (Wheelock, 2011). Concentration in the banking industry is driven by entry and exit, which is dependent on failures (Perotti & Suarez, 2002). Still, there has been little change of local banking market concentration, and the number of dominant banks in them, over the last decade (Wheelock, 2011).

Industry concentration, within industrial organization economics, typically decreases failure rates. Scherer and Ross (1990) proposed that industry concentration leads to tacit collusion and subsequently to greater profits. In essence, lack of competition brought on by collusive activity will mean higher than normal prices and hence higher profits.

However, the uniqueness of the banking industry is evident by the disagreement among scholars of industry concentration's impact. Some theoretical arguments suggest a less concentrated banking sector is more prone to financial crisis (Allen & Gale, 2000). Advantages of a highly concentrated banking market are two-fold. First, concentrated banking systems may enhance market power and boost profits (Porter, 1979). As high profits provide a ''buffer'' against adverse shocks and increase the charter or franchise value of the bank, thereby diminishing incentives for bank owners and managers to take excessive risk, they reduce banking sector fragility. Second, it is easier to monitor relatively few banks compared to many banks in a segmented system. Consequently,

bank supervision will be more effective and bank fragility will be less pronounced in a highly concentrated banking system.

Other authors argue that a highly concentrated banking structure increases banking fragility. Boyd and De Nicolo (2005) argue that although market power is increased in a highly concentrated banking market, the firm's behavior is often ignored when analyzing these markets. Bank decision making can often change when given the increased market power. Due to the higher interest rates that banks can charge due to the increased market power, banks are induced to assume greater risk. Bowman (1980, 1982) found there was a negative relationship between risk and return such that poor performance increases risk-taking which further reduces performance (Bowman, 1982; Bromiley, 1991). Lower concentration, therefore, minimizes bank risk and consequently bank fragility.

Moreover, the impact of concentration also varies across the geographic location of banks. In banking, it is problematic to compare rural and urban banking markets as rural markets are generally more concentrated (Wheelock, 2011). By their very nature, farming communities are likely to have few options for banking services, and thus higher industry concentration. In contrast, major urban centers, with a large pool of potential customers, have more competitors, and generally lower concentration. High industry concentration in these urban markets indicates a few dominant players that control a majority of the market. It is in these urban markets that smaller firms are more likely to suffer from concentration effects and face a great chance of failure.

H3: Higher local industry concentration will increase failure rates in urban markets.

While local banking market concentration's impact on bank failure has been disputed, local market volatility has not. Bank outcomes are strongly influenced by the robustness of their local economy (Kim & Miner, 2007). In several respects, the geographic patterns of recent U.S. bank failures has been similar to those episodes in the past as seen in both the 1930s bank crisis (Temin, 1976) and the 1980s/1990s bank crisis (Hanc, 1997). Even though most branching restrictions were removed more than a decade ago, the regional patterns of bank failures indicate that many banks remain vulnerable to local economic shocks (Aubuchon & Wheelock, 2010).

Banks limited to one geographical market will severely tie themselves to its fate. In the early years of the financial crisis, failure rates were higher in states with the largest declines in personal income and gross state product as well as the largest increases in unemployment rates. States experiencing the largest declines in housing price and highest rates of mortgage delinquency were facing the greatest number of bank failures. These were also the same states that had the largest number of subprime mortgage and greatest increase in housing prices prior to the crisis. Therefore, bank failures during this economic crisis are expected to mirror the local economic conditions.

H4: Greater environmental volatility will be associated with higher bank failure rates in a region.

Internal Antecedents

The resource-based view (RBV) attempts to explain heterogeneity (performance differences) between firms on the basis of resources (Penrose, 1959; Wernerfelt, 1984; Barney, 1991). Economic rents persist from imperfect and discretionary decisions to develop and deploy selected resources that are made by boundedly rational managers facing high uncertainty, complexity, and intra-firm conflict (Amit & Shoemaker, 1993). Due to uncertainty, complexity, and conflict, firms will employ different strategic assets. The Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994 permitted adequately capitalized and managed bank holding companies to acquire banks in any state. Successful banks utilized dispersion of banking activities to increase market size, economies of scale and reduce local market risk (Emmons, Gilbert, & Yeager, 2004). Since banking markets are imperfectly correlated, the dispersion of bank assets provides potential diversification benefits (Morgan & Samolyk, 2003). Ultimately, geographic diversification reduces overall bank risk (Liang & Rhoades, 1988) and consequently their risk of failure by expanding into multiple markets (Emmons, Gilbert, & Yeager, 2004).

H5: Increased geographic diversification will be associated with lower failure rates

When organizations encounter favorable experiences with risk, they become risk takers and begin to overestimate their chance of success with risk (March & Shapira, 1992). In banking, competition has traditionally been a source of excessive risk taking (Matutes & Vives, 2000). Low interest rates and government incentives provided banks with a low risk/high return opportunity. Economic theory has found a positive relationship between risk and return, based on the assumption that the greater the risk, the

higher the required return. However, Bowman (1982) found that higher risk also leads to higher failure rates.

In the early 2000s, real estate prices were growing steadily allowing banks to gamble on consumers with a low credit score. In the event of default, the bank would be able to recoup losses by selling the house at the newer appreciated price. Unexpectedly, these mortgages had a much higher payback rate (Demyanyk & Hemert, 2008) encouraging banks becoming risk takers. Typically, firms performing above their aspiration level (Fiegenbaum & Thomas, 1988) tend to assume less risk. However, many banks didn't perceive the risk until the economic crisis occurred. Managers accept risks because they do not expect that they will have to bear them (March & Shapira, 1987). They are insensitive to probabilities of possible outcomes. When the unexpected crisis occurred, risk-adverse banks were better situated to remain solvent.

H6: Increased risk seeking behavior of banks will be associated with higher failure rates.

Summary

In summary, a model for the internal and external antecedents of firm failure is developed in Chapter II. The model tests, from an institutional theory and IO perspective, how the external environment impacts firm failure. The model also examines, from a resource-based view perspective, how internal operations of the firm impact firm failure. Both internal and external perspectives were used to develop seven research hypotheses.

In Chapter III, the methodology will be introduced along with the description of the research design, data sample being used, and operationalization of the variables. In addition, the plan for data analysis will be elaborated on.

TABLE 7: TABLE OF HYPOTHESES

H#	Theory	Predicted Relationship	Variables
H1	Institutional Theory	Larger bank size will be associated with lower failure rates.	Nationwide deposits
H2	Institutional Theory	Organizational age will be negatively associated with failure rates.	Chronological age
H2b	Institutional Theory	Banks founded after the Gramm-Leach-Bliley Act will have lower failure rates than banks founded prior to 1999.	Founding Date: Before/After 1999
H3	IO Economics	Higher local industry concentration will increase failure rates in urban markets.	Home market concentration ratio Founding Date: Before/After 1999
H4	IO Economics	Greater environmental volatility will be associated with higher failure rates in a region.	Metropolitan area unemployment rate
H5	Resource-Based View	Increased geographic diversification will be associated with lower failure rates	Percentage of deposits outside home market
H6	Resource-Based View	Increased risk seeking behavior of banks will be associated with higher failure rates.	Total risk-based capital ratio

CHAPTER III

METHODOLOGY

In this chapter, the methodology used for empirical testing of the research model presented in Chapter II is described. Methodology used in prior failure literature is also examined and discussed. Subsequently, the research design is introduced with the detailed description of the sample, variables and their operationalization, as well as the statistical analyses to be used to test the hypotheses presented in Chapter II.

Research Design

A thorough examination of past failure research was conducted to develop the research design of this study. As previously mentioned, failure research has been presented in many different ways. Organizational decline (Whetten, 1980), organizational mortality (Carroll, 1983), organizational death (Freeman et al., 1983), bankruptcy (Sutton & Callahan, 1987), organizational extinction (Zuniga-Vicente and Vicente-Lorente, 2006), and organizational exit (Ross & Staw, 1993; Geroski, Mata, & Portugal, 2010), have been used to explain firm failure. All of these terms encompass firms that are no longer in existence. Appendix A[16] lists all US bank failures from June 30, 2009 to June 29, 2010. For this study, banks are defined as FDIC-Insured Institutions (Appendix B).

[16] Appendix A provides information on failed banks location, closing date, and failure outcome. Some failed banks were merged into another institution with FDIC assistance while others were closed completely due to financial difficulty. In either instance, the bank is considered failed per FDIC guidelines.

Sample

This dissertation focuses on the 181 bank failures[17] occurring between June 30, 2009 and June 29, 2010 and the 27 bank failures from 2000 to 2007. The disparity in the number of bank failure in the two periods makes the comparative analysis interesting. Figure 4 shows how the problem has exploded over the past 3 years.

FIGURE 4: NUMBER OF BANK FAILURES BY YEAR; 2000-2010

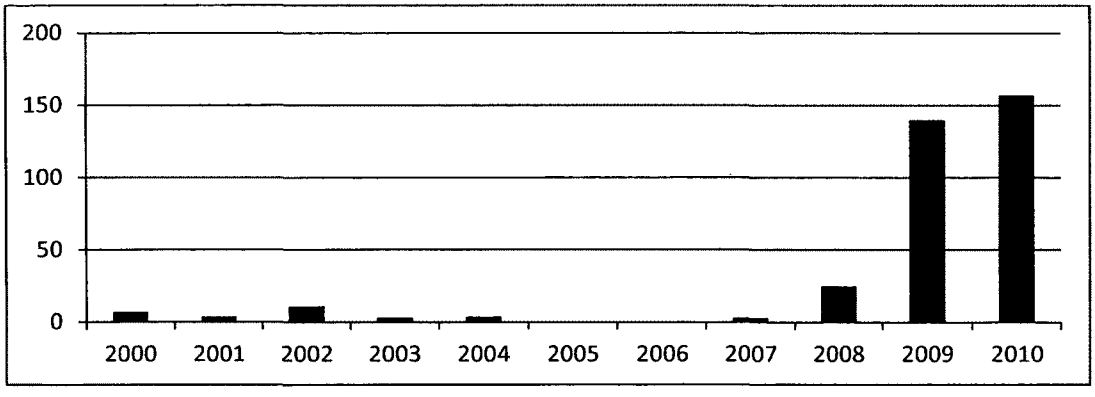
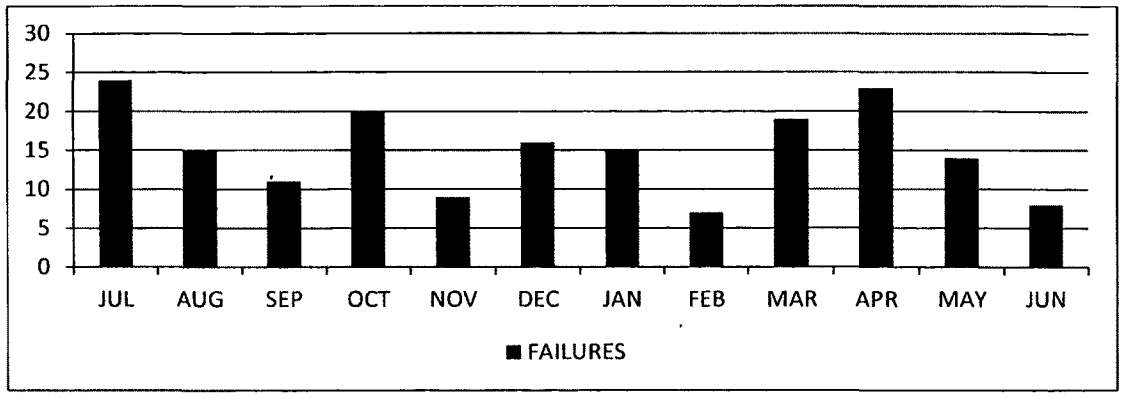


Figure 5 represents bank failures, per month, during this timeframe. From 2000 through 2007, no more than 11 bank failures occurred in any given year. In fact, 2005 and 2006 saw no bank failures all together. By comparison, at least 11 banks failed in 9 of the 12 *months* during 2010.

[17] Voluntary mergers and acquisitions that are unassisted do not count as bank failures (per FDIC guidelines). When a failure occurs, the FDIC will assist the bank in merging with another institution or shut it down after paying the depositors. Wheelock (2011; 431) noted that the recent financial crisis and recession leading to a wave a failures and mergers that contributed to the ongoing consolidation. He discusses the impact of unassisted mergers and their impact on concentration of local market which is different than failed banks (assisted). The focus of this study is on failed banks – those who were assisted by the FDIC. Voluntary mergers and acquisitions are not part of the study. Of the 181 bank failures studied, 175 (96.7%) were merged with assistance into another institution. The remaining six failures (3.3%) were closed due to financial difficulty.

FIGURE 5: INCIDENCE OF BANK FAILURES BY MONTH: JULY, 2009- JUNE, 2010



During the latter half of 2008, banks started failing at an alarming rate. The federal government created the TARP[18] program, in an attempt to curb the financial crisis. TARP gave the US Treasury purchasing power of $700 billion to buy up mortgage backed securities (MBS) from institutions across the country to create liquidity and open up the money markets. Since TARP was used to prevent bank failure, firms that received any TARP funds were omitted from all analysis.

Measures

Table 8 provides the names of the variables used in the analysis, the definition of each variable, the years the variable data was collected, the type of variable it is, and the rationale behind using it. Categorical, continuous, and dichotomous variables are used. The research model contains two broad sets of analysis; internal and external antecedents.

[18] TARP (Troubled Assets Relief Program) funds were dispersed to infuse troubled institutions with liquidity. However, none of the 181 failed firms in sample received any TARP funding. Much of the allocated TARP funds went to larger diversified financial institutions, such as Bank of America and Citigroup, leaving smaller institutions to fend for themselves.

Measures for independent variables, control variables and the dependent variable are presented.

Dependent Variable

The dependent variable is the unobserved hazard rate for bank failures (Kim & Miner, 2007). If the bank is no longer in existence and appears on the FDIC list of failed banks[19] it is considered a failed bank for the analysis. However, if the bank remains in existence until the following period of analysis it is considered "not failed". Banks that were voluntarily merged or acquired were not part of this analysis. The list of failed banks was gathered from the FDIC database. All failed banks from June 30, 2009 to June 29, 2010 were analyzed along with a matched pair survivor (Hambrick & D'Aveni, 1988; D'Aveni, 1989).

Control Variable

Return on assets (ROA) is a metric showing how effective a company's assets are at generating revenue. It is a measure of firm performance. In essence, it shows how many dollars a firm earns per dollar it has. ROA is very useful in comparing profitability intra industry as the competitors have similar structures. ROA is a common performance measure used in banking (and other financial institutions) as the majority of assets will have a carrying value that is close to the actual market value. The banks return on assets was collected from the FDIC database. Bank performance is used as a control variable.

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[19] Both Kim & Miner (2007) and DeVaughn & Leary (2010) wrote strategic management papers concerning bank failures. In both cases, failure was operationalized the same way – using the FDIC distinction. Following Kim & Miner (2007), "*Banks were considered to have failed if they were (1) liquidated or (2) merged with another bank with FDIC assistance*". Appendix A provides these distinctions for the sample. DeVaughn & Leary (2010) referenced the FDIC failed bank list.

TABLE 8: TABLE OF VARIABLES

Variable	Definition	Type of Variable	Rationale
Failure	The bank is no longer in existence.	Dependent; Dichotomous (1,0)	FDIC definition is used to stay consistent.
ROA	Return on Assets	Control; Continuous	Variable for bank performance.
Local Unemployment	Unemployment rate of the home city of the bank.	Independent; Continuous	Variable for market volatility.
Concentration Ratio	Industry concentration of top 4 firms in local market.	Independent; Continuous	Variable for measuring industry consolidation.
Age	Number of years since founding	Independent; Continuous	Variable for organizational longevity.
Risk	Total risk-based capital ratio.	Independent; Continuous	Variable for risk seeking behavior.
Size	Total deposits for entire institution within the US.	Independent; Continuous	Variable for bank size.
Geographic Diversification	Percentage of deposits that are outside of home market.	Independent; Continuous	Variable for geographic diversification.

External Independent Variables

Local unemployment indicates when the local economy is doing poorly. Businesses survival is dependent on its customers. When a large segment, or sub segment, of these customers become unemployed, the bank loses a large income base. When there is high unemployment, the average consumer is less likely to take out a new loan or pay back an existing loan. Since banks are reliant on interest from loans, less money is generated when consumers don't engage the business. Unemployment figures are collected during the failure as it has a rather immediate impact. Once an individual loses his or her job, loan repayment will immediately suffer. Unemployment figures (US Department of Labor) were collected for the metropolitan area that the bank was headquartered in and did most of their business. The unemployment figure used was the percentage of unemployed persons in the month that the bank failed. Data on unemployment was collected from monthly unemployment reports provided by The Bureau of Labor Statistics.

The *concentration ratio* illustrates the extent of the market control by the largest firms in the industry. The industry may be comprised of a few large firms or many small firms. The industry concentration can range from close to 0%, where the largest firms in the industry have no significant market share, to 100%. Zero percent concentration assumes perfect competition among competitors. High concentration (80-100%) would be considered an oligopoly or even a monopoly if only one firm is present. Most markets, however, fall somewhere in between. The active merging policy for bank failures tends to increase the level of concentration after a crisis (Perotti and Suarez, 2002). Due to the restrictive entry policy of banking, failed banks market share is far more likely to be

absorbed by a large existing competitor rather than a new firm. The concentration variable was collected using the most recent market data[20] prior to failure. The concentration ratio is calculated by adding the market share for the four largest banks. This data was collected from FDIC market share reports.

Internal Independent Variables

Total risk based capital ratio *(Risk)* is defined at the bank's total capital divided by its risk-based assets. This will show how well the bank manages risk. If the bank holds low risk assets, such as government bonds, it will have a much higher risk based capital ratio than if it held primarily personal loans. Since government bonds are considered virtually riskless, they often have a risk rating of zero. In contrast, a personal loan carries a risk weight of 100 since there is often no collateral. Banks with high risk-weighted assets are required to have more capital on hand. Risk data was collected from the FDIC database.

Total risk-based capital ratio: $\frac{\text{Total Capital}}{\text{Risk-based assets}}$

Organizational age *(chronological age)* and size *(national deposits)* are expected to impact failure rates in that organizational death rates decrease with age and size (Hannan and Freeman, 1984). There are few relationships in social science as well established as the negative relationship between age and mortality risk (Thornhill and Amit, 2003). Increase organizational age allows firms to develop stronger relationships with other organizations, thus providing survival advantages.

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[20] Market data is derived from the market share report provided by the FDIC. It provides detailed information on all competitors located in a particular city or metropolitan area. This data is collected on June 30th of each year.

The organizational age of a bank was tabulated using the FDIC database. Chronological age was calculated by using the firm founding date. The age used for the analysis was the age of the firm on June 30th of that year. The organizational size is based on the total deposits the bank has nationwide. This data was collected from the FDIC database.

Geographic diversification opportunities were made available to banks after the passage of GLBA and IBBEA. As a result, banks were no longer location bound as in the past. IBBEA permitted banks to operate across state lines. To capture the level of geographic diversification, the number of deposits outside of the market is divided by the total number of deposits. A bank that is well diversified geographically will have a lower percentage of total deposits residing in the home market. Data was collected using the FDIC database.

Matching process

A central part of the research design was to identify a matched survivor for each failed back as Hambrick & D'Aveni (1988) had done. The initial step was to collect information on all 181 banks that failed between June 30th, 2009 and June 29th, 2010 and the 27 bank failure between 2000 and 2007. Since local banking markets are often limited in the number of similar banks, the matching sample was expanded to the state level. Following D'Aveni (1989) firms were matched based on size and environment. As such, matched survivors were based on home state and total deposits. The same-state was used to analyze banks that had a similar environment. It would be problematic to analyze a bank headquartered in New York that operates in Los Angeles because they face different

environmental conditions. The size parameter ensures that functionally different banks aren't matched. Comparing a large-national bank to a small community bank would create similar problems as their operations are uniformly different.

Data Analysis

Survival analysis is used to estimate the unobserved hazard rate of bank failure (Kim & Miner, 2007). This method uses all information provided by right-centered cases, and avoids biases that logistic regression could display (Allison, 1984). Parametric estimates of a hazard rate require assumptions about the effect of time on the occurrence of the events of interest (Kim & Miner, 2007) which is bank failure in this case. The hazard model controls for each bank's period at risk. It is important to control for the fact that some banks fail immediately while other fail over time. Static models fail to control for each firm's period at risk. Unlike static models, hazard models can incorporate macroeconomic variables that are the same for all firms at a given point in time (Shumway, 2001). Time, in this study, is length of survival during the period of excessive bank failures. The clock was started on June 30th, 2007 which is two calendar years before the sample period. This date was selected because (a) June 30th is the date when FDIC institutions report their financial data (b) 2007 was the last year with less than 10 bank failures; and (c) Failures began increasing towards the end of 2008, making analyzing the entire year problematic. A hazard model (Cox regression) is created using SPSS, a statistical program, to test the hypotheses developed in Chapter III.

Summary

In Chapter III, the research design, data sample, and operationalization of variables were introduced. Dependent, independent, and control variables were described in detail, and given proper identification. The procedure for testing the hypothesis from Chapter II is also presented. The following chapter will include the results from the analysis conducted in Chapter III.

CHAPTER IV

RESULTS

In this chapter, results of the statistical analyses are presented. Descriptive statistics, correlations, and hazard model analyses are introduced in accordance with the hypotheses. Interpretation of the results follows analysis. Lastly, a review of hypotheses is presented at the end of the chapter to summarize the findings.

Descriptive Statistics and Correlations

Descriptive statistics and correlations are presented for all bank failures and matched survivors in Table 9. Though the total number of failed banks in the analysis was 181 (Appendix A), the number of failed banks with complete data that existed more than 5 years[21] was 125. The data examined for outliers and influence points using Cook's distance and standardized residuals. Following Hosmer and Lemeshow (2000), standardized residuals greater than 3.0 or less than -3.0 were omitted from the analysis. Similarly, cases with Cook's distance greater than 1.0 were also omitted making the total sample of cases 228. Correlations for all the variables are examined to ensure there is no multi-co-linearity present. Each dataset was tested for multicolinearity by running collinearity statistics in SPSS. Mulicollinearity problems exist with a variance inflation factor (VIF) above 5 (O'Brien, 2007). There are no problems with multicolinearity as all VIFs were low; all between 1 and 2 with a mean VIF score of 1.476.

[21] Banks that operated 5 years or less were omitted from all analysis. Newly chartered banks are typically protected by regulatory agencies for the first three to five years (DeVaughn & Kim, 2006) limiting their usefulness in analysis. The same criteria were applied to all datasets.

TABLE 9: CORRELATION MATRIX

ID	Variables	Mean	s.d	1	2	3	4	5	6	7
1	Size[22]	28,747	263,843	1.000						
2	Age	47.39	47.39	0.038	1.000					
3	Concentration	78.87	17.16	-0.146	**0.553**	1.000				
4	Unemployment	7.81	2.759	**0.278**	-0.151	-0.120	1.000			
5	Diversification	31.16	26.80	**0.275**	-0.037	**-0.223**	0.053	1.000		
6	Risk	11.43	6.25	0.049	**0.231**	0.109	-0.162	0.047	1.000	
7	Performance	-3.93	5.20	0.077	0.032	-0.118	-0.045	0.175	**0.392**	1.000

N = 228 banks; 664 bank years

Bold are significant at p=.05 level

[22] Number is in thousands USD.

Hazard Model

To test the antecedents of bank failure during the financial crisis, a hazard model was used since. The hazard model has several advantages over static models including: (a) static models fail to control for each firm's period at risk, (b) hazard models incorporate time-varying covariates, or explanatory variables that change with time, and (c) hazard models produce more efficient out-of-sample forecasts by utilizing much more data (Shumway, 2001). A second hazard model was created to examine what caused recent[23] bank failures prior to the crisis. Table 10 displays the results of the two hazard models.

Fascinatingly, 5 of the 7 independent variables are significant either pre-crisis or post-crisis, but not both. This would conclude that bank failure is attributed to different causes during a crisis and non-crisis situation. Prior to the crisis bank size ($p<.05$) and market concentration ($p<.10$) were significant in support of hypotheses 1 and 3. Organizational size is a key determinant of legitimacy (Deephouse, 1996) and legitimacy is a primary determinant of survival (Meyer & Rowan, 1977; DiMaggio & Powell, 1983). Interestingly, organizational size had a lesser impact on survival rates during the crisis. It can be concluded that other, more impactful variables determined those failures. The same can be said about the concentration of the local market. Prior to the crisis, banks operating in highly concentrated markets were less likely to fail than those operating in dispersed markets. Typically, highly concentrated markets face a diminished threat of new entrants and are in better position to compete (Porter, 1980). Once the financial

[23] The second data set consisted of bank failures between 2000 and 2007. This time period was significant as it followed the GLBA of 1999.

TABLE 10: HAZARD MODEL ESTIMATES[24];

A. BANK FAILURES DURING THE CRISIS

Variable	Coefficient	S.E.
Size	0.000	0.297
Age	-0.002	0.320
Concentration	0.014	0.010
Unemployment	0.139**	0.052
Diversification	0.001	0.006
Risk	-0.223***	0.039
#Performance	-0.086***	0.028

N= 228 banks; 664 bank years
Log-likelihood = 399.90
Chi-square = 95.20***
df = 7

B. BANK FAILURES PRIOR TO THE CRISIS

Variable	Coefficient	S.E.
Size	0.000**	0.000
Age	-0.002	0.377
Concentration	-0.032*	0.018
Unemployment	-0.238	0.203
Diversification	0.428	1.210
Risk	-0.061	0.047
#Performance	0.024	0.071

N= 44 banks; 154 bank years
Log-likelihood = 101.56
Chi-square = 9.83*
df = 6

*p<.10; **p<.05; ***p<.001
control variable

[24] Model A displays the results of the Hazard Model performed on the failures and matched pair from June 30th, 2009 and June 29th, 2010. These failures occurred during the banking crisis. Model B displays the results of the Hazard Model performed on the bank failures and matched pair that occurred between January 1, 2000 and December 31st2007. These failures occurred before the banking crisis began.

crisis began, other external forces increased failure rates, thus negating the positive benefits of high industry concentration.

When the financial crisis began in 2008, the determinants of survival shifted. During the crisis, unemployment ($p<.05$) and risk-seeking behavior ($p<.001$) were associated with bank failure in support of hypotheses 4 and 6. Given that unemployment numbers were low prior to 2008, it is expected that a small variance between cities wouldn't cause a significant increase in bank failure. Unemployment numbers rose to their highest rates since the Great Depression. Those cities that were hit hardest were much more likely to see bank failures. Bank risk became a much more severe problem during the bank crisis. Banks were able to engage in riskier activity without consequence prior to the banking market decline. During that timeframe, higher risk would often lead to higher rewards (returns). During the crisis, however, higher risk led to higher failure rates.

Additionally, there were two age-related discoveries. First, organizational age (H2) didn't significantly impact failure rates. Traditionally, nothing legitimates more than longevity (Deephouse, 1996).However, when the regulatory and technology changes occurred, older institutions faced a completely new financial services industry. Established banks had to begin new routines and procedures thus eliminating prior longevity advantages. Alternatively, banks that were founded after 1999 had lower failure rates[25] ($p<.085$) in support of hypothesis 2b. As these institutions were born into the new

[25] H2b examined if banks founded after deregulation (1999) had lower failure rates than banks founded prior to it. Since an alternative perspective was used to contradict H2, this analysis was done separately. A dummy variable was created where 0=founded in 1999 or before; 1=founded after 2000. The coefficient was 0.484 and the standard error was 0.283. It was significant at the $p<.10$ level. This data is not listed in Table 10.

financial services industry, they were able to adapt to the rapidly changing environment. Table 11 displays the overall results of the hypotheses.

To test for causality, variables were lagged 1 year and 2 years respectively to capture banks at the onset of the crisis and one year prior to it. Risk-seeking behavior was found to be the only significant variable ($p<.05$) that influenced the failure rate. This supports the conclusion that risk-seeking behavior becomes more harmful when there is a crisis. The risk-seeking behavior didn't have strong negative consequences until the financial crisis occurred.

TABLE 11: SUMMARY OF RESULTS

H#	Theory	Predicted Relationship	Result
H1	Institutional Theory	Larger bank size will be associated with lower failure rates.	Supported; failures prior to the bank crisis
H2	Institutional Theory	Organizational age will be negatively associated with failure rates.	Not Supported
H2b	Institutional Theory	Banks founded after the Gramm-Leach-Bliley Act will have lower failure rates than banks founded prior to 1999.	Supported
H3	IO Economics	Higher local industry concentration will increase failure rates in urban markets.	Supported; failures prior to the bank crisis
H4	IO Economics	Greater environmental volatility will be associated with higher failure rates in a region.	Supported; failures during the bank crisis
H5	IO Economics	Increased geographic diversification will be associated with lower failure rates.	Not supported
H6	Resource-Based View	Increased risk seeking behavior of banks will be associated with higher failure rates.	Supported; failures during the bank crisis

CHAPTER V

CONCLUSION

In this chapter, the dissertation objectives are reviewed and the results of the empirical analyses from Chapter IV are discussed. Theoretical contributions are highlighted along with study limitations and opportunities for future research.

Dissertation Objectives

The core of this dissertation encompassed the question, what caused such a high rate of bank failure. Past bank failures have been examined and their antecedents explained. Temin (1976) listed falling agricultural prices, resulting from the great depression, as the trigger to the widespread bank failure of the 1930s. Geographic areas where local farms were failing in large numbers would be the same areas where the failing banks would be.

Market forces and sectoral recessions that contributed to the bank failures of the 1930s also contributed to the widespread bank failures of the 1980s and early 1990s. What differentiated the latter failure was the level of excessive risk taking (Hanc, 1997). Since the institutions were insured against losses, there was no incentive for them to monitor bank activities or demand risk premia on deposit interest rates (Wheelock & Kumbhaker, 1994).

This current financial crisis has largely been attributed to Wall Street (Lewis, 2010). Non-depository financial institutions created products based on risky mortgages and found ways to package them as seemingly secure investments. The ratings agencies (Moody's and S&P) gave risky assets gold-plated ratings, opening the door to a huge

market of CDO buyers (Lewis, 2010). Once the NDFIs had someone to sell the risky mortgages to, lenders were no longer concerned about repayment. Profit driven, facing minimized risk, lenders enticed Americans to take out mortgages they couldn't afford. American consumers gladly accepted these mortgages.

Nevertheless, the financial crisis is only one aspect of the bank failures. This dissertation examined failure from an institutional theory, industrial organization economics, and resource-based view perspective. The objective of this dissertation was to illuminate how external factors, institutional factors, and organizational factors contribute to bank failure. This was accomplished using strategic management perspectives rather than relying on traditional finance literature on bank failure (see Beaver, 1966; Meyer and Pifer, 1970; Sinkey, 1975).

This study tested competing perspectives in the context of organizational failure. Using institutional theory and industrial organizational economics, deterministic perspectives are discussed as causes of bank failure. Contrarily, using the resource-based view perspective, the voluntaristic point of view is discussed.

Discussion

Hypothesis 1 tested if bank size attributed to their survivability. As expected, larger banks were more likely to survive than smaller banks. Liability of smallness (Aldrich & Auster, 1986) suggests that small banks do not perform as well as large banks and have higher failure rates because they incur problems raising capital, attracting and retaining highly skilled workers, and having higher administrative costs.

The average size of banking institutions has growth nearly 250% larger in the past 10 years. Regulatory changes have produced large conglomerate banks that have become a one stop shop for financial services. Larger organizations are assumed to have more resources, better managerial skills and closer interorganizational relationships that presumably enhance the organizations capacity to withstand significant environmental changes (Freeman et al., 1983). Large size almost always lowers failure rates (Ranger-Moore, 1997). However, this was not the case during the financial crisis. The hazard model found that organizational size didn't significantly influence failure rates during the financial crisis. Part of that non-finding can be attributed to TARP. The largest failing banks received assistance, and therefore could not fail. By analyzing failure without the largest banks, or other outliers, some of the value in bank size was inevitably lost.

Hypothesis 2 tested the relationship between bank age and failure rates. Though organizational age often leads to higher survival rates, it did not in this study – for either timeframe. Selection processes typically favor older, more reliable organizations resulting in a decline in failure rates with age (Stinchcombe, 1965). Deregulation created opportunities for incumbent firms to introduce new products and enter new geographic markets. When a firm engages in a new activity[26] for the first time, it needs to establish internal and external norms, new roles for organization members, standard operating procedures, and new patterns for interacting (Shane & Foo, 1999). As Shane and Foo (1999) indicate, firms that engage in new activities are more likely to fail as their members must learn new roles and establish routines and procedures. Older banks that had achieved legitimacy pre-deregulation had subsequently lost it as the industry

[26] Regulatory changes and technology improvements altered the competitive landscape of banking. The elimination of barriers between insurance, banking, and securities industries has created a completely new financial services industry (Yildirim, Kwag, & Collins, 2006).

structure changed and consumers required more services. The constant evolution of the banking industry after the regulatory changes diminished longevity advantages that older banks had enjoyed.

Hypothesis 2b tested whether banks born after deregulation enjoyed survival advantages. The results show that younger banks, founded between 2000 and 2005 were more likely to survive during the financial crisis. Older banks were at a disadvantage because firms that engage in new activities are more likely to fail as their members must learn new roles and establish routines and procedures (Shane & Foo, 1999). Newer institutions didn't have to contend with old routines, and thus enjoyed survival advantages.

Hypothesis 3 tested the impact local industry concentration had on bank survival. These results showed that concentration was not significant during the financial crisis, but was significant prior to it. Higher industry concentration generally leads to greater profits (Scherer & Ross, 1990) which should lead to increased survival. However, others argue that a highly concentrated banking structure increases banking fragility (Boyd & DeNicolo, 2005). The results show agreement to both assertions. First, banking markets with higher concentration had fewer failures prior to the financial crisis. Given the banking industry's active merging policy and restrictive entry policy (Suarez & Perotti, 2002) high concentration puts banks in better position to compete. Those operating in highly concentrated markets, therefore, will be less likely to fail. This relationship changed, however, once the financial crisis began. As Boyd & DeNicolo (2005) point out, high industry concentration also increases bank fragility. When the banking industry is healthy, other deterministic environmental factors are not pushing towards failure.

When the banking industry is in crisis, however, external factors diminish concentration advantages.

Hypothesis 4 tested the impact that local market volatility had on failure rates. As expected, the economic downturn increased failure rates in local economies that were severely impacted. When the local economy is suffering, all businesses in that economy suffer – including banks – thus increasing failure rates. The reason that local market volatility was not significant prior the economic crisis was because local economies were relatively stable across the United States. The variation of economic distress was minimal between 2000 and 2007. By the time the financial crisis was underway, there was a much larger disparity between stable and unstable markets. When local economies began to fail during the financial crisis, bank failures ultimately followed.

Hypothesis 5 tested geographic diversification's relationship to bank failure. Geographic diversification was not associated with bank failure rates. It has been discussed how bank outcomes are severely tied to their local economy. Still, small banks are often not well diversified (Neely & Wheelock, 1997). Even though geographic diversification reduces overall bank risk (Liang & Rhoades, 1988) and subsequently their risk of failure by expanding into multiple markets (Emmons, Gilbert, & Yeager, 2004), many small banks lack the capacity or desire to expand. This study primarily utilized small to medium sized banks and therefore didn't include large banks that achieved diversification advantages. It is possible that an entire population of banks, containing large and small banks alike, would have significant results showing survival advantages for geographically diversified banks.

Hypothesis 6 tested risk seeking behavior as a factor of bank failure. As expected, banks that engage in riskier practices were more likely to fail during the financial crisis. Michael Lewis (2010), in his book The Big Short, mentions that Wall Street greed was behind much of the crisis. Subprime mortgages were created in the search for greater profits. While housing prices were rising, customers of subprime mortgages could be charged a premium. Since the housing prices were continually rising, the risk of these mortgages was minimal. Once real estate prices began to plummet, these risks (along with others) backfired. Banks were stuck with tremendous liabilities. Risk adverse institutions, that didn't engage heavily in these practices, remained relatively unharmed.

Limitations and future research

A limitation of this study was that all banks in the United States were not included. Due to considerations of time and availability, only the data on failed banks, along with a matched-pair, was collected. This significantly reduced collection time as data for a few hundred, rather than several thousand banks was used. This may not be representative of the entire population as there were certainly not an equal number of failed and non-failed banks. Only about 2% of all banks in the U.S. failed during the timeframe of the study. Future research could include the entire population of U.S. banks.

The lack of managerial decision making data was another limitation of this study. No hypothesis tested risk at the time of the decision making. Furthermore, no primary data was used to determine the managerial competency of the bank leaders. Only post

hoc analysis of their decisions was used. A future study could collect primary data from those key decision makers at the banks.

Another limitation was the timeframe. This study captured the first few years of the bank crisis. As the paper is completed, the recession is still ongoing. At this point and time, no one is certain when it will end. Similar to other studies done, an analysis of the bank failure could be done after the situation has passed. Alston et al. (1994) conducted a study on the Great Depression bank failures 50 years after it had ended. After some time has passed, it would be interesting to take a look back.

Conclusion

This dissertation tested deterministic and voluntaristic determinants of bank failure following the financial crisis of 2008. It was found that both internal and external factors were associated with failure. It was also determined that different factors are associated with bank failure during a financial crisis compared to a non-crisis situation. During the financial crisis, risk seeking behavior by banks was associated with bank failures. In stable economic conditions, risk seeking behavior may lead to higher profitability. Banks are insured against loses which gives them more latitude to take risks. However, when the market takes a downturn, the risk seeking backfires and leads to higher failure rates. As a result, the government is taking steps to reduce risk-seeking behavior[27].

[27] The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 contained "The Volcker Rule" section which bans most proprietary trading by banks with federally insured deposits. Trades related to market-making were exempt, provided that they met at least seven standards, or principles. The Volcker Rule was implemented to limit risk-seeking behavior.

Another finding that was expected was that environmental volatility is associated with failure rates during an economic crisis. The period before the crisis was stable, so there were few bank failures. When the local economies began to falter, the banks within that market began to fail. This was expected because economic distress increases failure rates in almost every industry, including banking.

This financial crisis was unique because organizational longevity didn't decrease failure rates but having a founding date after 1999 did. It was determined that banks that were launched after the deregulation period had lower failure rates. ATM networks and banking websites leveled the playing field in the early 2000s. New banks that adopted the high tech model were better suited for the new competitive environment.

The factors associated with failure prior to the financial crisis, but not during, are equally interesting. Bank size, which should be universal, was only significant prior to the crisis. As expected, banks with greater size were associated with survivability. What mitigates this relationship is the federal government. Larger banks are considered too big to fail as their failure would have far reaching ramifications in the general economy. They cannot be considered successes because they need assistance. They cannot be considered failures because they technically didn't fail – per the FDIC definition. They are subsequently removed from analysis – masking any size based advantages of bank operation.

Industry concentration was also associated with lower failure rates prior to the financial crisis but not during it. Industry concentration is local, like the environmental volatility. However, the negative effects of poor economic conditions supersede any positive effects of having a highly concentrated industry. Any advantages that firm may

achieve by being part of a consolidated industry are quickly erased when that economy falters. By being a part of that failing economy, likelihood of failure will increase regardless of concentration.

To conclude, risk-seeking behavior and the economic downturn were strongly tied to this recent bank failure crisis. More banks failure occurred between 2008 and 2010 than any other period in US history except for the Great Depression and the Savings and Loan Crisis. Managers and policy makers should take note. Risk-seeking behavior can potentially earn greater profits during an economic expansion, but it will cause failure when the expansion ceases.

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APPENDIX A: US BANK FAILURES; JUNE 30, 2009 TO JUNE 29, 2010

#	Bank Name	City	State	Closing Date	Outcome of Failed Bank
1	Founders Bank	Worth	IL	2-Jul-09	Merged with Financial Assistance into Acquiring institution: The PrivateBank and Trust Company - (33306)
2	First National Bank of Danville	Danville	IL	2-Jul-09	Merged with Financial Assistance into Acquiring institution: First Financial Bank, National Association - (4382)
3	Elizabeth State Bank	Elizabeth	IL	2-Jul-09	Merged with Financial Assistance into Acquiring institution: Galena State Bank & Trust Co. - (19660)
4	Rock River Bank	Oregon	IL	2-Jul-09	Merged with Financial Assistance into Acquiring institution: The Harvard State Bank - (9079)
5	First State Bank of Winchester	Winchester	IL	2-Jul-09	Merged with Financial Assistance into Acquiring institution: State Bank of Lincoln - (12396)
6	John Warner Bank	Clinton	IL	2-Jul-09	Merged with Financial Assistance into Acquiring institution: State Bank of Lincoln - (12396)
7	Millennium State Bank of Texas	Dallas	TX	2-Jul-09	Merged with Financial Assistance into Acquiring institution: State Bank of Texas - (27074)
8	Bank of Wyoming	Thermopolis	WY	10-Jul-09	Merged with Financial Assistance into Acquiring institution: Central Bank and Trust - (529)
9	Temecula Valley Bank	Temecula	CA	17-Jul-09	Merged with Financial Assistance into Acquiring institution: First-Citizens Bank & Trust Company - (11063)
10	Vineyard Bank	Rancho Cucamonga	CA	17-Jul-09	Merged with Financial Assistance into Acquiring institution: California Bank & Trust - (20852)
11	First Piedmont Bank	Winder	GA	17-Jul-09	Merged with Financial Assistance into Acquiring institution: First American Bank and Trust Company - (16858)
12	BankFirst	Sioux Falls	SD	17-Jul-09	Merged with Financial Assistance into Acquiring institution: Alerus Financial, National Association - (3931)
13	Security Bank of Jones County	Gray	GA	24-Jul-09	Merged with Financial Assistance into Acquiring institution: State Bank and Trust Company - (57870)
14	Security Bank of Houston County	Perry	GA	24-Jul-09	Merged with Financial Assistance into Acquiring institution: State Bank and Trust Company - (57870)
15	Security Bank of Bibb County	Macon	GA	24-Jul-09	Merged with Financial Assistance into Acquiring institution: State Bank and Trust Company - (57870)
16	Security Bank of North Metro	Woodstock	GA	24-Jul-09	Merged with Financial Assistance into Acquiring institution: State Bank and Trust Company - (57870)

APPENDIX A CONTINUED

#	Bank Name	City	State	Closing Date	Outcome of Failed Bank
17	Security Bank of North Fulton	Alpharetta	GA	24-Jul-09	Merged with Financial Assistance into Acquiring institution: State Bank and Trust Company - (57870)
18	Security Bank of Gwinnett County	Suwanee	GA	24-Jul-09	Merged with Financial Assistance into Acquiring institution: State Bank and Trust Company - (57870)
19	Waterford Village Bank	Williamsville	NY	24-Jul-09	Merged with Financial Assistance into Acquiring institution: Evans Bank, National Association - (6947)
20	Integrity Bank	Jupiter	FL	31-Jul-09	Merged with Financial Assistance into Acquiring institution: Stonegate Bank - (57934)
21	Mutual Bank	Harvey	IL	31-Jul-09	Merged with Financial Assistance into Acquiring institution: United Central Bank - (25330)
22	First BankAmericano	Elizabeth	NJ	31-Jul-09	Merged with Financial Assistance into Acquiring institution: Crown Bank - (34259)
23	Peoples Community Bank	West Chester	OH	31-Jul-09	Merged with Financial Assistance into Acquiring institution: First Financial Bank, National Association - (6600)
24	First State Bank of Altus	Altus	OK	31-Jul-09	Merged with Financial Assistance into Acquiring institution: Herring Bank - (5568)
25	Community National Bank of Sarasota County	Venice	FL	7-Aug-09	Merged with Financial Assistance into Acquiring institution: Stearns Bank National Association - (10988)
26	First State Bank	Sarasota	FL	7-Aug-09	Merged with Financial Assistance into Acquiring institution: Stearns Bank National Association - (10988)
27	Community First Bank	Prineville	OR	7-Aug-09	Merged with Financial Assistance into Acquiring institution: Home Federal Bank - (28258)
28	Colonial Bank	Montgomery	AL	14-Aug-09	Merged with Financial Assistance into Acquiring institution: Branch Banking and Trust Company - (9846)
29	Community Bank of Arizona	Phoenix	AZ	14-Aug-09	Merged with Financial Assistance into Acquiring institution: MidFirst Bank - (4063)
30	Union Bank, National Association	Gilbert	AZ	14-Aug-09	Merged with Financial Assistance into Acquiring institution: MidFirst Bank - (4063)
31	Community Bank of Nevada	Las Vegas	NV	14-Aug-09	Merged with Financial Assistance into Acquiring institution: Deposit Insurance National Bank of Las Vegas - (59002)

APPENDIX A CONTINUED

#	Bank Name	City	State	Closing Date	Outcome of Failed Bank
32	Dwelling House Savings and Loan Association	Pittsburgh	PA	14-Aug-09	Merged with Financial Assistance into Acquiring institution: PNC Bank, National Association - (6384)
33	CapitalSouth Bank	Birmingham	AL	21-Aug-09	Merged with Financial Assistance into Acquiring institution: Iberiabank - (28100)
34	First Coweta Bank	Newnan	GA	21-Aug-09	Merged with Financial Assistance into Acquiring institution: United Bank - (172)
35	ebank	Atlanta	GA	21-Aug-09	Merged with Financial Assistance into Acquiring institution: Stearns Bank National Association - (10988)
36	Guaranty Bank	Austin	TX	21-Aug-09	Merged with Financial Assistance into Acquiring institution: Compass Bank - (19048)
37	Affinity Bank	Ventura	CA	28-Aug-09	Merged with Financial Assistance into Acquiring institution: Pacific Western Bank - (24045)
38	Bradford Bank	Baltimore	MD	28-Aug-09	Merged with Financial Assistance into Acquiring institution: Manufacturers and Traders Trust Company - (588)
39	Mainstreet Bank	Forest Lake	MN	28-Aug-09	Merged with Financial Assistance into Acquiring institution: Central Bank - (27234)
40	First State Bank	Flagstaff	AZ	4-Sep-09	Merged with Financial Assistance into Acquiring institution: Sunwest Bank - (20164)
41	Vantus Bank	Sioux City	IA	4-Sep-09	Merged with Financial Assistance into Acquiring institution: Great Southern Bank - (29546)
42	Platinum Community Bank	Rolling Meadows	IL	4-Sep-09	This institution was closed due to Financial Difficulty - Depositor Payoff. Acquiring institution: This action did not result in a new institution.
43	InBank	Oak Forest	IL	4-Sep-09	Merged with Financial Assistance into Acquiring institution: MB Financial Bank, National Association - (3628)
44	First Bank of Kansas City	Kansas City	MO	4-Sep-09	Merged with Financial Assistance into Acquiring institution: Great American Bank - (10908)
45	Corus Bank, N.A.	Chicago	IL	11-Sep-09	Merged with Financial Assistance into Acquiring institution: MB Financial Bank, National Association - (3628)
46	Brickwell Community Bank	Woodbury	MN	11-Sep-09	Merged with Financial Assistance into Acquiring institution: CorTrust Bank National Association - (6063)

APPENDIX A CONTINUED

#	Bank Name	City	State	Closing Date	Outcome of Failed Bank
47	Venture Bank	Lacey	WA	11-Sep-09	Merged with Financial Assistance into Acquiring institution: First-Citizens Bank & Trust Company - (11063)
48	Irwin Union Bank and Trust Company	Columbus	IN	18-Sep-09	Merged with Financial Assistance into Acquiring institution: First Financial Bank, National Association - (6600)
49	Irwin Union Bank, F.S.B.	Louisville	KY	18-Sep-09	Merged with Financial Assistance into Acquiring institution: First Financial Bank, National Association - (6600)
50	Georgian Bank	Atlanta	GA	25-Sep-09	Merged with Financial Assistance into Acquiring institution: First Citizens Bank and Trust Company, Inc. - (15504)
51	Southern Colorado National Bank	Pueblo	CO	2-Oct-09	Merged with Financial Assistance into Acquiring institution: Legacy Bank - (12699)
52	Warren Bank	Warren	MI	2-Oct-09	Merged with Financial Assistance into Acquiring institution: The Huntington National Bank - (6560)
53	Jennings State Bank	Spring Grove	MN	2-Oct-09	Merged with Financial Assistance into Acquiring institution: Central Bank - (27234)
54	San Joaquin Bank	Bakersfield	CA	16-Oct-09	Merged with Financial Assistance into Acquiring institution: Citizens Business Bank - (21716)
55	Flagship National Bank	Bradenton	FL	23-Oct-09	Merged with Financial Assistance into Acquiring institution: First Federal Bank of Florida - (31313)
56	Hillcrest Bank Florida	Naples	FL	23-Oct-09	Merged with Financial Assistance into Acquiring institution: Stonegate Bank - (57934)
57	Partners Bank	Naples	FL	23-Oct-09	Merged with Financial Assistance into Acquiring institution: Stonegate Bank - (57934)
58	American United Bank	Lawrenceville	GA	23-Oct-09	Merged with Financial Assistance into Acquiring institution: Ameris Bank - (20504)
59	First DuPage Bank	Westmont	IL	23-Oct-09	Merged with Financial Assistance into Acquiring institution: First Midwest Bank - (3709)
60	Riverview Community Bank	Otsego	MN	23-Oct-09	Merged with Financial Assistance into Acquiring institution: Central Bank - (27234)
61	Bank of Elmwood	Racine	WI	23-Oct-09	Merged with Financial Assistance into Acquiring institution: Tri City National Bank - (18922)

APPENDIX A CONTINUED

#	Bank Name	City	State	Closing Date	Outcome of Failed Bank
62	Bank USA, N.A.	Phoenix	AZ	30-Oct-09	Merged with Financial Assistance into Acquiring institution: U.S. Bank National Association - (6548)
63	Pacific National Bank	San Francisco	CA	30-Oct-09	Merged with Financial Assistance into Acquiring institution: U.S. Bank National Association - (6548)
64	California National Bank	Los Angeles	CA	30-Oct-09	Merged with Financial Assistance into Acquiring institution: U.S. Bank National Association - (6548)
65	San Diego National Bank	San Diego	CA	30-Oct-09	Merged with Financial Assistance into Acquiring institution: U.S. Bank National Association - (6548)
66	Park National Bank	Chicago	IL	30-Oct-09	Merged with Financial Assistance into Acquiring institution: U.S. Bank National Association - (6548)
67	Community Bank of Lemont	Lemont	IL	30-Oct-09	Merged with Financial Assistance into Acquiring institution: U.S. Bank National Association - (6548)
68	North Houston Bank	Houston	TX	30-Oct-09	Merged with Financial Assistance into Acquiring institution: U.S. Bank National Association - (6548)
69	Madisonville State Bank	Madisonville	TX	30-Oct-09	Merged with Financial Assistance into Acquiring institution: U.S. Bank National Association - (6548)
70	Citizens National Bank	Teague	TX	30-Oct-09	Merged with Financial Assistance into Acquiring institution: U.S. Bank National Association - (6548)
71	United Commercial Bank	San Francisco	CA	6-Nov-09	Merged with Financial Assistance into Acquiring institution: East West Bank - (31628)
72	United Security Bank	Sparta	GA	6-Nov-09	Merged with Financial Assistance into Acquiring institution: Ameris Bank - (20504)
73	Home Federal Savings Bank	Detroit	MI	6-Nov-09	Merged with Financial Assistance into Acquiring institution: Liberty Bank and Trust Company - (20856)
74	Prosperan Bank	Oakdale	MN	6-Nov-09	Merged with Financial Assistance into Acquiring institution: Alerus Financial, National Association - (3931)
75	Gateway Bank of St. Louis	St. Louis	MO	6-Nov-09	Merged with Financial Assistance into Acquiring institution: Central Bank of Kansas City - (17009)
76	Pacific Coast National Bank	San Clemente	CA	13-Nov-09	Merged with Financial Assistance into Acquiring institution: Sunwest Bank - (20164)
77	Orion Bank	Naples	FL	13-Nov-09	Merged with Financial Assistance into Acquiring institution: Iberiabank - (28100)

APPENDIX A CONTINUED

#	Bank Name	City	State	Closing Date	Outcome of Failed Bank
78	Century Bank, F.S.B.	Sarasota	FL	13-Nov-09	Merged with Financial Assistance into Acquiring institution: Iberiabank - (28100)
79	Commerce Bank of Southwest Florida	Fort Myers	FL	20-Nov-09	Merged with Financial Assistance into Acquiring institution: Central Bank - (27234)
80	The Tattnall Bank	Reidsville	GA	4-Dec-09	Merged with Financial Assistance into Acquiring institution: Heritage Bank of the South - (50028)
81	First Security National Bank	Norcross	GA	4-Dec-09	Merged with Financial Assistance into Acquiring institution: State Bank and Trust Company - (57870)
82	The Buckhead Community Bank	Atlanta	GA	4-Dec-09	Merged with Financial Assistance into Acquiring institution: State Bank and Trust Company - (57870)
83	Benchmark Bank	Aurora	IL	4-Dec-09	Merged with Financial Assistance into Acquiring institution: MB Financial Bank, National Association - (3628)
84	AmTrust Bank	Cleveland	OH	4-Dec-09	Merged with Financial Assistance into Acquiring institution: New York Community Bank - (16022)
85	Greater Atlantic Bank	Reston	VA	4-Dec-09	Merged with Financial Assistance into Acquiring institution: SONABANK - (57968)
86	Valley Capital Bank, N.A.	Mesa	AZ	11-Dec-09	Merged with Financial Assistance into Acquiring institution: Enterprise Bank & Trust - (27237)
87	Republic Federal Bank, N.A.	Miami	FL	11-Dec-09	Merged with Financial Assistance into Acquiring institution: 1st United Bank - (35408)
88	SolutionsBank	Overland Park	KS	11-Dec-09	Merged with Financial Assistance into Acquiring institution: Arvest Bank - (8728)
89	New South Federal Savings Bank	Irondale	AL	18-Dec-09	Merged with Financial Assistance into Acquiring institution: Beal Bank, SSB - (32574)
90	First Federal Bank of California, F.S.B.	Santa Monica	CA	18-Dec-09	Merged with Financial Assistance into Acquiring institution: OneWest Bank, FSB - (58978)
91	Imperial Capital Bank	La Jolla	CA	18-Dec-09	Merged with Financial Assistance into Acquiring institution: City National Bank - (17281)
92	Peoples First Community Bank	Panama City	FL	18-Dec-09	Merged with Financial Assistance into Acquiring institution: Hancock Bank - (12441)

APPENDIX A CONTINUED

#	Bank Name	City	State	Closing Date	Outcome of Failed Bank
93	RockBridge Commercial Bank	Atlanta	GA	18-Dec-09	This institution was closed due to Financial Difficulty - Depositor Payoff. Acquiring institution: This action did not result in a new institution.
94	Independent Bankers' Bank	Springfield	IL	18-Dec-09	Merged with Financial Assistance into Acquiring institution: Independent Bankers' Bank Bridge Bank, National Association - (59021)
95	Citizens State Bank	New Baltimore	MI	18-Dec-09	Merged with Financial Assistance into Acquiring institution: Deposit Insurance National Bank of New Baltimore - (59022)
96	Horizon Bank	Bellingham	WA	8-Jan-10	Merged with Financial Assistance into Acquiring institution: Washington Federal - (28088)
97	Town Community Bank & Trust	Antioch	IL	15-Jan-10	Merged with Financial Assistance into Acquiring institution: First American Bank - (3657)
98	St. Stephen State Bank	St. Stephen	MN	15-Jan-10	Merged with Financial Assistance into Acquiring institution: Sentry Bank - (8546)
99	Barnes Banking Company	Kaysville	UT	15-Jan-10	Merged with Financial Assistance into Acquiring institution: Deposit Insurance National Bank of Kaysville - (59027)
100	Premier American Bank	Miami	FL	22-Jan-10	Merged with Financial Assistance into Acquiring institution: Florida Community Bank, National Association - (58991)
101	Bank of Leeton	Leeton	MO	22-Jan-10	Merged with Financial Assistance into Acquiring institution: Sunflower Bank, National Association - (4767)
102	Charter Bank	Santa Fe	NM	22-Jan-10	Merged with Financial Assistance into Acquiring institution: Charter Bank - (59030)
103	Columbia River Bank	The Dalles	OR	22-Jan-10	Merged with Financial Assistance into Acquiring institution: Columbia State Bank - (33826)
104	Evergreen Bank	Seattle	WA	22-Jan-10	Merged with Financial Assistance into Acquiring institution: Umpqua Bank - (17266)
105	First Regional Bank	Los Angeles	CA	29-Jan-10	Merged with Financial Assistance into Acquiring institution: First-Citizens Bank & Trust Company - (11063)
106	Florida Community Bank	Immokalee	FL	29-Jan-10	Merged with Financial Assistance into Acquiring institution: Florida Community Bank, National Association - (58991)

APPENDIX A CONTINUED

#	Bank Name	City	State	Closing Date	Outcome of Failed Bank
107	Community Bank and Trust	Cornelia	GA	29-Jan-10	Merged with Financial Assistance into Acquiring institution: SCBT National Association - (13425)
108	First National Bank of Georgia	Carrollton	GA	29-Jan-10	Merged with Financial Assistance into Acquiring institution: Community & Southern Bank - (59010)
109	Marshall Bank, N.A.	Hallock	MN	29-Jan-10	Merged with Financial Assistance into Acquiring institution: Community & Southern Bank - (59010)
110	American Marine Bank	Bainbridge Island	WA	29-Jan-10	Merged with Financial Assistance into Acquiring institution: United Valley Bank - (15478)
111	1st American State Bank of Minnesota	Hancock	MN	5-Feb-10	Merged with Financial Assistance into Acquiring institution: Community Development Bank, FSB - (10568)
112	La Jolla Bank, FSB	La Jolla	CA	19-Feb-10	Merged with Financial Assistance into Acquiring institution: OneWest Bank, FSB - (58978)
113	George Washington Savings Bank	Orland Park	IL	19-Feb-10	Merged with Financial Assistance into Acquiring institution: Firstmerit Bank, National Association - (13675)
114	The La Coste National Bank	La Coste	TX	19-Feb-10	Merged with Financial Assistance into Acquiring institution: Community National Bank - (23431)
115	Marco Community Bank	Marco Island	FL	19-Feb-10	Merged with Financial Assistance into Acquiring institution: Mutual of Omaha Bank - (32325)
116	Rainier Pacific Bank	Tacoma	WA	26-Feb-10	Merged with Financial Assistance into Acquiring institution: Umpqua Bank - (17266)
117	Carson River Community Bank	Carson City	NV	26-Feb-10	Merged with Financial Assistance into Acquiring institution: Heritage Bank of Nevada - (34072)
118	Centennial Bank	Ogden	UT	5-Mar-10	This institution was closed due to Financial Difficulty - Depositor Payoff. Acquiring institution: This action did not result in a new institution.
119	Waterfield Bank	Germantown	MD	5-Mar-10	Merged with Financial Assistance into Acquiring institution: Waterfield Bank, FA - (59036)
120	Bank of Illinois	Normal	IL	5-Mar-10	Merged with Financial Assistance into Acquiring institution: Heartland Bank and Trust Company - (20369)
121	Sun American Bank	Boca Raton	FL	5-Mar-10	Merged with Financial Assistance into Acquiring institution: First-Citizens Bank & Trust Company - (11063)
122	LibertyPointe Bank	New York	NY	11-Mar-10	Merged with Financial Assistance into Acquiring institution: Valley National Bank - (9396)

APPENDIX A CONTINUED

#	Bank Name	City	State	Closing Date	Outcome of Failed Bank
123	Statewide Bank	Covington	LA	12-Mar-10	Merged with Financial Assistance into Acquiring institution: Home Bank - (28094)
124	Old Southern Bank	Orlando	FL	12-Mar-10	Merged with Financial Assistance into Acquiring institution: Centennial Bank - (11241)
125	The Park Avenue Bank	New York	NY	12-Mar-10	Merged with Financial Assistance into Acquiring institution: Valley National Bank - (9396)
126	State Bank of Aurora	Aurora	MN	19-Mar-10	Merged with Financial Assistance into Acquiring institution: Northern State Bank - (15242)
127	First Lowndes Bank	Fort Deposit	AL	19-Mar-10	Merged with Financial Assistance into Acquiring institution: First Citizens Bank - (23152)
128	Bank of Hiawassee	Hiawassee	GA	19-Mar-10	Merged with Financial Assistance into Acquiring institution: Citizens South Bank - (28833)
129	Appalachian Community Bank	Ellijay	GA	19-Mar-10	Merged with Financial Assistance into Acquiring institution: Community & Southern Bank - (59010)
130	Advanta Bank Corp.	Draper	UT	19-Mar-10	This institution was closed due to Financial Difficulty - Depositor Payoff. Acquiring institution: This action did not result in a new institution.
131	Century Security Bank	Duluth	GA	19-Mar-10	Merged with Financial Assistance into Acquiring institution: Bank of Upson - (17041)
132	American National Bank	Parma	OH	19-Mar-10	Merged with Financial Assistance into Acquiring institution: The National Bank and Trust Company - (6731)
133	Desert Hills Bank	Phoenix	AZ	26-Mar-10	Merged with Financial Assistance into Acquiring institution: New York Community Bank - (16022)
134	Unity National Bank	Cartersville	GA	26-Mar-10	Merged with Financial Assistance into Acquiring institution: Bank of the Ozarks - (110)
135	Key West Bank	Key West	FL	26-Mar-10	Merged with Financial Assistance into Acquiring institution: Centennial Bank - (11241)
136	McIntosh Commercial Bank	Carrollton	GA	26-Mar-10	Merged with Financial Assistance into Acquiring institution: CharterBank - (30720)
137	Beach First National Bank	Myrtle Beach	SC	9-Apr-10	Merged with Financial Assistance into Acquiring institution: Bank of North Carolina - (33527)

APPENDIX A CONTINUED

#	Bank Name	City	State	Closing Date	Outcome of Failed Bank
138	City Bank	Lynnwood	WA	16-Apr-10	Merged with Financial Assistance into Acquiring institution: Whidbey Island Bank - (18412)
139	Tamalpais Bank	San Rafael	CA	16-Apr-10	Merged with Financial Assistance into Acquiring institution: Union Bank, National Association - (22826)
140	Innovative Bank	Oakland	CA	16-Apr-10	Merged with Financial Assistance into Acquiring institution: BBCN Bank - (26610)
141	Butler Bank	Lowell	MA	16-Apr-10	Merged with Financial Assistance into Acquiring institution: People's United Bank - (27334)
142	Riverside National Bank of Florida	Fort Pierce	FL	16-Apr-10	Merged with Financial Assistance into Acquiring institution: TD Bank, National Association - (18409)
143	AmericanFirst Bank	Clermont	FL	16-Apr-10	Merged with Financial Assistance into Acquiring institution: TD Bank, National Association - (18409)
144	First Federal Bank of North Florida	Palatka	FL	16-Apr-10	Merged with Financial Assistance into Acquiring institution: TD Bank, National Association - (18409)
145	Lakeside Community Bank	Sterling Heights	MI	16-Apr-10	This institution was closed due to Financial Difficulty - Depositor Payoff. Acquiring institution: This action did not result in a new institution.
146	Wheatland Bank	Naperville	IL	23-Apr-10	Merged with Financial Assistance into Acquiring institution: Wheaton Bank & Trust - (33803)
147	Peotone Bank and Trust Company	Peotone	IL	23-Apr-10	Merged with Financial Assistance into Acquiring institution: First Midwest Bank - (3709)
148	Lincoln Park Savings Bank	Chicago	IL	23-Apr-10	Merged with Financial Assistance into Acquiring institution: Northbrook Bank and Trust Company - (57082)
149	New Century Bank	Chicago	IL	23-Apr-10	Merged with Financial Assistance into Acquiring institution: MB Financial Bank, National Association - (3628)
150	Citizens Bank and Trust Company of Chicago	Chicago	IL	23-Apr-10	Merged with Financial Assistance into Acquiring institution: Republic Bank of Chicago - (19333)
151	Broadway Bank	Chicago	IL	23-Apr-10	Merged with Financial Assistance into Acquiring institution: MB Financial Bank, National Association - (3628)
152	Amcore Bank, NA	Rockford	IL	23-Apr-10	Merged with Financial Assistance into Acquiring institution: BMO Harris Bank National Association - (16571)
153	Frontier Bank	Everett	WA	30-Apr-10	Merged with Financial Assistance into Acquiring institution: Union Bank, National Association - (22826)

APPENDIX A CONTINUED

#	Bank Name	City	State	Closing Date	Outcome of Failed Bank
154	BC National Banks	Butler	MO	30-Apr-10	Merged with Financial Assistance into Acquiring institution: Community First Bank - (10595)
155	Champion Bank	Creve Coeur	MO	30-Apr-10	Merged with Financial Assistance into Acquiring institution: BankLiberty. - (30817)
156	CF Bancorp	Port Huron	MI	30-Apr-10	Merged with Financial Assistance into Acquiring institution: Talmer Bank and Trust - (58132)
157	Westernbank Puerto Rico	Mayaguez	PR	30-Apr-10	Merged with Financial Assistance into Acquiring institution: Banco Popular de Puerto Rico - (34968)
158	R-G Premier Bank of Puerto Rico	Hato Rey	PR	30-Apr-10	Merged with Financial Assistance into Acquiring institution: Scotiabank de Puerto Rico - (22946)
159	Eurobank	San Juan	PR	30-Apr-10	Merged with Financial Assistance into Acquiring institution: Oriental Bank and Trust - (31469)
160	1st Pacific Bank of California	San Diego	CA	7-May-10	Merged with Financial Assistance into Acquiring institution: City National Bank - (17281)
161	Towne Bank of Arizona	Mesa	AZ	7-May-10	Merged with Financial Assistance into Acquiring institution: Commerce Bank of Arizona - (57279)
162	Access Bank	Champlin	MN	7-May-10	Merged with Financial Assistance into Acquiring institution: PrinsBank - (10191)
163	The Bank of Bonifay	Bonifay	FL	7-May-10	Merged with Financial Assistance into Acquiring institution: First Federal Bank of Florida - (31313)
164	Midwest Bank and Trust Company	Elmwood Park	IL	14-May-10	Merged with Financial Assistance into Acquiring institution: Firstmerit Bank, National Association - (13675)
165	Southwest Community Bank	Springfield	MO	14-May-10	Merged with Financial Assistance into Acquiring institution: Simmons First National Bank - (3890)
166	New Liberty Bank	Plymouth	MI	14-May-10	Merged with Financial Assistance into Acquiring institution: Bank of Ann Arbor - (34120)
167	Satilla Community Bank	Saint Mary's	GA	14-May-10	Merged with Financial Assistance into Acquiring institution: Ameris Bank - (20504)
168	Pinehurst Bank	Saint Paul	MN	21-May-10	Merged with Financial Assistance into Acquiring institution: Coulee Bank - (18361)
169	Sun West Bank	Las Vegas	NV	28-May-10	Merged with Financial Assistance into Acquiring institution: City National Bank - (17281)
170	Granite Community Bank, NA	Granite Bay	CA	28-May-10	Merged with Financial Assistance into Acquiring institution: Tri Counties Bank - (21943)

APPENDIX A CONTINUED

#	Bank Name	City	State	Closing Date	Outcome of Failed Bank
171	Bank of Florida - Tampa	Tampa	FL	28-May-10	Merged with Financial Assistance into Acquiring institution: EverBank - (34775)
172	Bank of Florida - Southwest	Naples	FL	28-May-10	Merged with Financial Assistance into Acquiring institution: EverBank - (34775)
173	Bank of Florida - Southeast	Fort Lauderdale	FL	28-May-10	Merged with Financial Assistance into Acquiring institution: EverBank - (34775)
174	TierOne Bank	Lincoln	NE	4-Jun-10	Merged with Financial Assistance into Acquiring institution: Great Western Bank - (15289)
175	Arcola Homestead Savings Bank	Arcola	IL	4-Jun-10	This institution was closed due to Financial Difficulty - Depositor Payoff. Acquiring institution: This action did not result in a new institution.
176	First National Bank	Rosedale	MS	4-Jun-10	Merged with Financial Assistance into Acquiring institution: The Jefferson Bank - (11445)
177	Washington First International Bank	Seattle	WA	11-Jun-10	Merged with Financial Assistance into Acquiring institution: East West Bank - (31628)
178	Nevada Security Bank	Reno	NV	18-Jun-10	Merged with Financial Assistance into Acquiring institution: Umpqua Bank - (17266)
179	First National Bank	Savannah	GA	25-Jun-10	Merged with Financial Assistance into Acquiring institution: First American Bank - (2240)
180	Peninsula Bank	Englewood	FL	25-Jun-10	Merged with Financial Assistance into Acquiring institution: The Savannah Bank, National Association - (33120)
181	High Desert State Bank	Albuquerque	NM	25-Jun-10	Merged with Financial Assistance into Acquiring institution: First American Bank - (2240)

APPENDIX B: DEFINITIONS

FDIC-Insured Institutions: The category of FDIC-insured commercial banks includes all commercial banks insured by the Federal Deposit Insurance Corporation (FDIC). It also includes all commercial banks insured by the FDIC that are regulated by and submit financial data to one of the three Federal commercial bank regulators (Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation or Office of the Comptroller of the Currency). The category of FDIC-insured savings institutions includes all institutions insured by the FDIC that operated under state or federal banking codes applicable to thrift institutions.

Curriculum Vitae

Joseph Trendowski

January 2012

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Education

2012 - Expected	Ph.D. Strategic Management International Business Emphasis	Old Dominion University
2005	Masters of Business Adm.	Alfred University
2004	BS Business Administration	Alfred University

Academic Overview:
August, 2011 – Present: Assistant Professor of Management, University of Evansville.

Research Interests:
My research focuses on the financial services industry, dynamic capabilities, risk, international business and the resource-based view of the firm.

Dissertation Research:
Title: A Study of Failures in the US banking industry.
Chair: Anil Nair
Committee Members: Barbara Bartkus, Mike Provance, Larry Filer

Publications:
Nair, Anil, & **Trendowski, Joseph.** 2011. Towne Bank: Of David and Goliaths. Ivey Case Product Number: 9B11M073. Harvard Business Review Product: W11335
Nair, Anil, **Trendowski, Joseph**, & Judge, William. 2008. Book review of "The theory of the growth of the firm" by Edith Penrose, Academy of Management Review, 33: 1026-1028.

Presentations:
Nair, Anil & **Trendowski, Joseph.** Of Lilliput among Gullivers: How Towne Bank Thrived Amidst Large National Banks. Paper presented at 2008 Eastern Academy of Management Conference. Washington, D.C.
Trendowski, Joseph. Money Laundering Problems and Philippine Improvement efforts. Paper presented at Manila 2005 International Conference on Business, Economics and Information Technology. Manila, Philippines.

Associations:
Academy of Management; Eastern Academy of Management; Old Dominion University Doctoral Association

Service:
Entrepreneurship Theory & Practice Reviewer, 2012.
University of Evansville's Risk Management External Academic Subcommittee
Asian Academy of Management Reviewer, 2010.
FDI market review for the new edition of International Business by Tamer Cavusgil, Gary Knight & John Riesenberger. Pearson 2010.
IT coordinator – Research Symposium on Corporate Governance in China and India. 2008. Virginia Beach, VA.

Courses Taught:
MGMT 462 - Comparative International Management
The course examines organizational structure and functioning from cross-cultural and cross-national perspectives. Compares how management practices differ from one society to another. Comparisons are made between the U.S., Western Europe, Japan, the USSR, China, and the Third World nations.

MGMT 485 - Business Strategy and Policy
A capstone course to integrate and apply the concepts learned in required business courses to the development of business strategy and policy-level decisions.

BUS 269 – Fundamentals of Entrepreneurship
Introduces the topic of entrepreneurship in a classroom setting. Includes overview of entrepreneurial processes and traits, developing and managing the challenges of operating a new venture, and successful exit strategies. Focuses on development of a business plan for a new venture by student teams.

BUS 270 – Experience in Entrepreneurship
Applied experience in entrepreneurship. Under supervision of a faculty member, student teams initiate and run a new business venture based on the business plan that was reviewed and approved in Business 269.

BUS 135 - Intro-Office Productivity Software
Introduces and provides hands-on experience in office productivity software used for word processing, spreadsheet, and presentation.

Previous Work Experience
Bank of New York (Now Bank of New York Mellon. (BK)). 2006-2007.
Investor Services – Handled all daily transactions for large insurance firms whose assets totaled $32 billion. Performed custody related activities including: cash transfer, trade processing and reconciliation, short and long term investments, account transfers, and position transfers among other daily activity.